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Classroom Materials for Job-Related BSEP II Program

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Job skills training	Math training

Basic Skills Education Program

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This volume, which contains prototype BSEP II classroom materials, is one of three documents describing the development of a management system for integrating BSEP II training and unit training. The other two documents include ARI Research Report 1346, Management System for Integrating Basic Skills II Training and Unit Training Programs, which describes the total research effort and reports the results of a field test, and ARI Research Note 83-38, BSEP II Lesson Developer's Guide.

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CLASSROOM MATERIALS FOR JOB-RELATED BSEP II PROGRAM

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Name_____

MODULE PREVIEW

CAPITALIZATION

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error.

Example: the squad leader, SGT thomas, held inspection. 1, 5

		Numbers of words that should be capitalized:
1.	The black history club held a meeting last friday	1. _____
2.	at stilwell hall. They are planning some seminars	2. _____
3.	for june. one will be a music appreciation course	3. _____
4.	featuring african music. There will also be a	4. _____
5.	course titled "tracing your roots" for people who	5. _____
6.	want to find out about their ancestors. james gordon,	6. _____
7.	mr. earl roswell, and a doctor of history from the	7. _____
8.	university of california will conduct the classes.	8. _____
9.	The famous black poet, valerie raines, will read	9. _____
10.	some of her poetry. One poem, titled "it wasn't	10. _____
11.	quite clear", contains the lines:	11. _____
12.	i probably should know	12. _____
13.	what you said to me,	13. _____
14.	but i don't want to hear	14. _____
15.	that you're leaving me.	15. _____
16.	This poem appears in ms. raines' book, <u>new sense</u>.	16. _____

Name_____

ANSWER KEY/DIAGNOSTIC

MODULE PREVIEW

CAPITALIZATION

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error.

Example: the squad leader, SGT thomas, held inspection. 1, 5

1.	The black history club held a meeting last friday	1. 2,3,4:4/9:3
2.	at stilwell hall. They are planning some seminars	2. 2,3:2
3.	for june. one will be a music appreciation course	3. 2:3/3:1
4.	featuring african music. There will also be a	4. 2:4
5.	course titled "tracing your roots" for people who	5. 3,4,5:5
6.	want to find out about their ancestors. james gordon,	6. 8,9:2
7.	mr. earl roswell, and a doctor of history from the	7. 1:6/2,3:2
8.	university of california will conduct the classes.	8. 1,3:2
9.	The famous black poet, valerie raines, will read	9. 3:4/5,6:2
10.	some of her poetry. One poem, titled "it wasn't	10. 8,9:8
11.	quite clear", contains the lines:	11. 1,2:8
12.	i probably should know	12. 1:8
13.	what you said to me,	13. 1:8
14.	but i don't want to hear	14. 1:8/2:2
15.	that you're leaving me.	15. 1:8
16.	This poem appears in ms. raines' book, new sense.	16. 5:6/6:2/8,9:7

READING THE ANSWER KEY/DIAGNOSTIC:

Numbers of words which should be capitalized (and the number written in the answer blank) are typed in straight numerals followed by a colon. The underlined, script number following the colon is the number of the activity sheet which should be assigned if the proper word or words are not indicated in the answer blank. For lines which diagnose more than one type of capitalization problem on the same line, the types of problems are separated by a slash (/). Thus, for Item 3, if the 2nd word is not listed in the answer blank, assign Activity Sheet 3; and if the 3rd word in the same line is not indicated in the answer blank, assign Activity Sheet 1.

Name_____

MODULE RECORD SHEET

CAPITALIZATION

OBJECTIVE: Given any sentence, capitalize all the words which should be capitalized, according to the rules for capitals.

SAMPLE TEST ITEMS:

1. Underline all words which should be capitalized in the following sentence:

   a. My brother's name is sgt. peter jones.

2. Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines may have an error in them.

   a. I delivered the papers to captain Whitman and — a. 6

   b. the lieutenant at company b. — b. 4,5

INTRODUCTION TO CAPITALS:

Capitals are used to set off words that are special in some way. For instance, the first word of every sentence is capitalized. So is the pronoun "I", and any proper noun in a sentence. The activity sheets will tell you how to use capitals in sentences. Work through all the activity sheets that have been circled below. You can check your own work using the Checklists your teacher has shown you. If you have any questions about why a word should or should not be capitalized, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for capitals, ask to take the Module Review.

ACTIVITY SHEETS (Do those that are circled)

1.	Initial Capitals	1A	1B
2.	Proper Names and Nouns	2A	2B
3.	Days, Months, and Holidays	3A	3B
4.	Special Groups, Events, Religions, and Races	4A	4B
5.	Languages and Course Titles	5A	5B
6.	Honorifics	6A	6B
7.	Book and Magazine Titles	7A	7B
8.	Lines and Titles of Poetry	8A	8B

Name_____

MODULE REVIEW

CAPITALIZATION

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error.

Example: the squad leader, SGT thomas, held inspection. 1, 5

		Numbers of words that should be capitalized:
1.	king junior college will start its new semester	1. _____
2.	on monday, may 10th. The courses include three	2. _____
3.	history classes, chemistry 101, and a literature	3. _____
4.	course featuring mexican folk tales. You can	4. _____
5.	also take french or spanish. doctor jane parker	5. _____
6.	will conduct a poetry seminar. The works of	6. _____
7.	mr. robert frost will be featured. he wrote a	7. _____
8.	famous poem called, "the road not taken", which	8. _____
9.	ends with these lines:	9. _____
10.	two roads diverged in a wood, and I --	10. _____
11.	i took the one less traveled by,	11. _____
12.	and that has made all the difference.	12. _____
13.	The textbook for the class is titled,	13. _____
14.	<u>american poets, old and new</u>. the class	14. _____
15.	will be held at the monterey cultural center.	15. _____

ANSWER KEY/DIAGNOSTIC

Name_____

MODULE REVIEW

CAPITALIZATION

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error.

Example: the squad leader, SGT thomas, held inspection. 1, 5

1.	king junior college will start its new semester	1. 1,2,3:2,4
2.	on monday, may 10th. The courses include three	2. 2,3:3
3.	history classes, chemistry 101, and a literature	3. ①:5/3:5
4.	course featuring mexican folk tales. You can	4. 3:4
5.	also take french or spanish. doctor jane parker	5. 3,5:5/6:6/7,8:2
6.	will conduct a poetry seminar. The works of	6. ④:5
7.	mr. robert frost will be featured. he wrote a	7. 1:6/2,3:2/7:1
8.	famous poem called, "the road not taken", which	8. 4,5,6,7:8
9.	ends with these lines:	9. none
10.	two roads diverged in a wood, and I --	10. 1:8
11.	i took the one less traveled by,	11. 1:8
12.	and that has made all the difference.	12. 1:8
13.	The textbook for the class is titled,	13. none
14.	american poets, old and new. the class	14. 1,2,3,5:7/6:1
15.	will be held at the monterey cultural center.	15. 6,7,8:2,4

READING THE ANSWER KEY/DIAGNOSTIC:

Numbers of words which should be capitalized (and the number written in the answer blank) are typed in straight numerals followed by a colon. The underlined, script number following the colon is the number of the activity sheet which should be assigned if the proper word or words are not indicated in the answer blank. For lines which diagnose more than one type of capitalization problem, the types of problems are separated by a slash (/). If a straight-typed numeral appears within a circle (①), that word should not appear on the answer blank. If it does appear, the indicated activity sheet should be assigned. Thus, for Item 3, if the 1st word is indicated in the answer blank, assign Activity Sheet 5; if the 3rd word is not indicated in the answer blank, assign Activity Sheet 5.

Capitalization
Activity Sheet 1A
Initial Capitals

Name_____

Capitalize the first word of every sentence.

Instructions: Underline every word that should be capitalized in the following sentences.

Example: <u>your</u> protective mask will keep you from breathing dangerous gases.

1. rick is carrying his protective mask.
2. he has seen a cloud of white smoke.
3. he must put on his mask.
4. he has nine seconds to put on his mask.
5. rick also has a hood.
6. he must put that on in six seconds.
7. he is wearing a helmet.
8. first, he must remove the helmet.
9. he can hold the helmet between his knees.
10. he can also hang the helmet from the muzzle of his rifle.

Capitalization
Activity Sheet 2A
Proper Names and Proper Nouns

Name_____

A proper name or a proper noun is a word that refers to a particular person or thing. For instance, "the man" could refer to anyone, but the word "Mike" refers to a particular man named Mike. The word "island" is a general or common noun, but "Alcatraz Island" is a particular place.

Capitalize every proper noun in a sentence. Make sure you always capitalize the word "I" in a sentence, because it refers to a particular person, yourself.

Instructions: Underline every word that should be capitalized in the following sentences.

Example: We were inspected by sergeant ford and the lieutenant.
(Note: You need to capitalize sergeant ford because the title and name refer to a particular person. But lieutenant is not capitalized, because it could refer to any lieutenant.)

1. I'm stationed at fort ord, california.
2. Jim and i enlisted at the same time.
3. The u.s. army made us both infantrymen.
4. We went out for maneuvers with a platoon from c company.
5. My platoon was defending north merrilis hill.
6. The other platoon was attacking from camp huffman.
7. They were so good that they were almost on top of jim's position before we saw them.
8. Our platoon sergeant, SGT martinez, ordered us to throw smoke.
9. You should have seen those c company guys scramble for their gas masks.
10. They gave away their positions, and we pushed them all the way back to camp huffman.

Capitalization
Activity Sheet 3A
Days, Months, and Holidays

Name_____

The names of days and months are always capitalized. Also, the names of special days such as holidays are capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines have an error on them.

Example: a. The 24th of february is ash wednesday. a. 4, 6, 7

b. It is a religious holiday. b. none

		Number of words that should be capitalized:
1.	On the last tuesday of each month, SGT Farris	1. _____
2.	makes out his training calendar for the next month.	2. _____
3.	It tells us, for instance, what we will do each	3. _____
4.	day in february. Yesterday was wednesday, and	4. _____
5.	SGT Farris gave me his new training calendar	5. _____
6.	to type. This training calendar is for the	6. _____
7.	month of april. The day after easter is a	7. _____
8.	training holiday. We don't get palm sunday	8. _____
9.	off, however. The line companies are going to	9. _____
10.	the rifle range for two days starting on tuesday.	10. _____
11.	We have motor stables every wednesday afternoon.	11. _____
12.	Starting on the last thursday morning, we will be	12. _____
13.	doing runs with full gear. Those runs will	13. _____
14.	continue into the month of june.	14. _____

Capitalization
Activity Sheet 4A
Special Groups, Events,
Religions, and Races

Name_____

The names of special groups are always capitalized. These can be the names of clubs, like Weight Watchers, or of religious groups, like Mormons, or of races or ethnic groups, like American Indians. Also, any event which is special is capitalized. The word "marathon", which is a long race, is not capitalized when it appears alone, but the Boston Marathon is a particular race and it is capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines have an error in them.

Example: a. My club, the west end athletic club, went to — a. 4,5,6,7

b. see the superbowl game last year. — b. 3,4

		Numbers of words that should be capitalized:
1.	My community has a group called the cultural	1. _____
2.	awareness committee that sponsors several clubs.	2. _____
3.	The polynesian club is very active. Besides people	3. _____
4.	from the Hawaiian Islands, there are several samoans	4. _____ _____
5.	in the group. The african roots club is another	5. _____
6.	active group. It is for people who are interested	6. _____
7.	in black culture and history. There are several	7. _____
8.	religious clubs, such as the christian seekers club.	8. _____
9.	Jews and buddhists also have special clubs. Next	9. _____
10.	month, the clubs are holding "cultural awareness day".	10. _____
11.	A special "black art auction" will be held.	11. _____
12.	Several clubs will sponsor the annual "international dinner",	12. _____
13.	which will feature foods from different cultures and lands.	13. _____

Capitalization
Activity Sheet 5A
Languages and Specific Courses

Name_____

Names of languages, such as Russian and German, are always capitalized. School subjects such as biology are not capitalized, but specific courses such as Biology 201 or Modern Poetry are capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines have an error in them.

Example: a. The three courses I took were chinese, a. 7

b. creative writing, and a physics course. b. 1,2

Numbers of words that should be capitalized:

1. Danny is taking english and math classes in 1. _____
2. night high school. His friend, Anne, is 2. _____
3. taking spanish. Danny speaks spanish very well, 3. _____
4. so he sometimes helps Anne. In return, she helps 4. _____
5. him with his math course, algebra 101. The night 5. _____
6. high school also has courses in french and 6. _____
7. history. Danny took history 201 last year. He 7. _____
8. doesn't like history courses as much as he likes 8. _____
9. english courses. However, he needs to take a 9. _____
10. course called history of western europe next 10. _____
11. semester. He would rather take english literature 11. _____
12. or a math course. Anne has promised to help him next 12. _____
13. semester so he can finish history 205 with a good grade. 13. _____

Capitalization
Activity Sheet 6A
Honorifics

Name _____

Honorifics are special titles given to people. They are always capitalized. Sometimes common nouns are used as honorifics. For instance, the word "captain" is a common noun, so it isn't capitalized. But if you use it to refer to a specific person, such as Captain Black, then it must be capitalized because it is an honorific.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful. Not all lines may have an error in them.

Example: a. The preacher at our church is reverend Walter Dobbs. a. 7

		Numbers of words that should be capitalized:
1.	Many people have titles in front of their names,	1. _____
2.	such as doctor Johnson. Titles such as	2. _____
3.	captain Smith are called honorifics. They show	3. _____
4.	honor to someone who has a special position, such	4. _____
5.	as general Brown. Honorifics are often abbreviated	5. _____
6.	or shortened, like the word "mister" is abbreviated	6. _____
7.	in the title "mr. Thompson". Other honorifics are	7. _____
8.	not usually abbreviated, such as lord Nelson. The	8. _____
9.	honorific to be used when talking to a judge is "your	9. _____
10.	honor". A judge's name might be written, "the honorable	10. _____
11.	Sandra Day O'Connor". She might also be called	11. _____
12.	"judge O'Connor", because the word "judge" can be an	12. _____
13.	honorific. The word "sergeant" is abbreviated	13. _____
14.	in the title, sgt. Williams. The superintendent of	14. _____
15.	a school might be called superintendent Rossini.	15. _____

Capitalization
Activity Sheet 7A
Book and Magazine Titles

Name_____

Magazine titles, such as "Sunset" and "National Geographic", are always capitalized. All the important words in book titles are capitalized, but not the little or unimportant ones. For instance, all the words in the book title The Way West are important, so they are all capitalized. But in the book title The Prime of Miss Jean Brodie, the word "of" is not important, so it is not capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines may have an error in them.

Example: a. The newest issue of "playboy" has a good — a. 5
b. article on sailing. — b. none

		Numbers of words that should be capitalized:
1.	Manuals such as the soldier's manual of common tasks	1. _____
2.	can help you learn your Army job. Some books deal	2. _____
3.	with specific jobs, too, like a book called the	3. _____
4.	uniform plumbing code. Even magazines such as	4. _____
5.	"mechanics illustrated" can teach you more about	5. _____
6.	your job. One manual which helps clerks and supplymen	6. _____
7.	is called the army maintenance management schedule.	7. _____
8.	There is a popular cookbook called the joy of cooking.	8. _____
9.	The magazine called "car and driver" is a good one for	9. _____
10.	auto buffs. A book which helps people to budget is	10. _____
11.	called how to manage money. An Army manual called land	11. _____
12.	navigation is very useful for troops in the field. You	12. _____
13.	can find many good Army texts, like one called rifle	13. _____
14.	marksmanship, in your MOS library. Magazines like	14. _____
15.	"popular electronics" and others to help you in your job	15. _____
16.	can be found in your local library or bookstore.	16. _____

Capitalization
Activity Sheet 8A
Lines and Titles of Poetry

Name_____

Poem titles are like book titles. All the important words should be capitalized. Also, the first word of every line of poetry should be capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error in them.

Example: a. The last line of the poem called "mending wall" is: a. 8,9

b. he says again, "Good fences make good neighbors". b. 1

		Numbers of words that should be capitalized:
1.	This short poem, called "fire and ice", was	1.
2.	written by Robert Frost, an American poet:	2.
3.	some say the world will end in fire,	3.
4.	some say in ice.	4.
5.	from what I've tasted of desire	5.
6.	I hold with those who favor fire.	6.
7.	but if it had to happen twice,	7.
8.	I think I know enough of hate	8.
9.	to say that for destruction, ice	9.
10.	is also great	10.
11.	and would suffice.	11.

CHECK SHEET

Capitalization
Activity Sheet 1A
Initial Capitals

Name_____

Capitalize the first word of every sentence.

Instructions: Underline every word that should be capitalized in the following sentences.

Example: your protective mask will keep you from breathing dangerous gases.

1. rick is carrying his protective mask.
2. he has seen a cloud of white smoke.
3. he must put on his mask.
4. he has nine seconds to put on his mask.
5. rick also has a hood.
6. he must put that on in six seconds.
7. he is wearing a helmet.
8. first, he must remove the helmet.
9. he can hold the helmet between his knees.
10. he can also hang the helmet from the muzzle of his rifle.

CHECK SHEET

Capitalization
Activity Sheet 2A
Proper Names and Proper Nouns

Name_____

A proper name or a proper noun is a word that refers to a particular person or thing. For instance, "the man" could refer to anyone, but the word "Mike" refers to a particular man named Mike. The word "island" is a general or common noun, but "Alcatraz Island" is a particular place.

Capitalize every proper noun in a sentence. Make sure you always capitalize the word "I" in a sentence, because it refers to a particular person, yourself.

Instructions: Underline every word that should be capitalized in the following sentences.

Example: We were inspected by sergeant ford and the lieutenant.

(Note: You need to capitalize sergeant ford because the title and name refer to a particular person. But lieutenant is not capitalized, because it could refer to any lieutenant.)

1. I'm stationed at fort ord, california.
2. Jim and i enlisted at the same time.
3. The u.s. army made us both infantrymen.
4. We went out for maneuvers with a platoon from c company.
5. My platoon was defending north merrilis hill.
6. The other platoon was attacking from camp huffman.
7. They were so good that they were almost on top of jim's position before we saw them.
8. Our platoon sergeant, SGT martinez, ordered us to throw smoke.
9. You should have seen those c company guys scramble for their gas masks.
10. They gave away their positions and we pushed them all the way back to camp huffman.

CHECK SHEET
Capitalization
Activity Sheet 3A
Days, Months, and Holidays

Name_____

The names of days and months are always capitalized. Also, the names of special days such as holidays are capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines have an error on them.

Example:	a. The 24th of february is ash wednesday.	a. 4, 6, 7
	b. It is a religious holiday.	b. none

		Numbers of words that should be capitalized:
1.	On the last tuesday of each month, SGT Farris	1. 4
2.	makes out his training calendar for the next month.	2. none
3.	It tells us, for instance, what we will do each	3. none
4.	day in february. Yesterday was wednesday, and	4. 3, 6
5.	SGT Farris gave me his new training calendar	5. none
6.	to type. This training calendar is for the	6. none
7.	month of april. The day after easter is a	7. 3, 7
8.	training holiday. We don't get palm sunday	8. 6, 7
9.	off, however. The line companies are going to	9. none
10.	the rifle range for two days starting on tuesday.	10. 9
11.	We have motor stables every wednesday afternoon.	11. 6
12.	Starting on the last thursday morning, we will be	12. 5
13.	doing runs with full gear. Those runs will	13. none
14.	continue into the month of june.	14. 6

CHECK SHEET
Capitalization
Activity Sheet 4A
Special Groups, Events,
Religions, and Races

Name_____

The names of special groups are always capitalized. These can be the names of clubs, like Weight Watchers, or of religious groups, like Mormons, or of races or ethnic groups, like American Indians. Also, any event which is special is capitalized. The word "marathon", which is a long race, is not capitalized when it appears alone, but the Boston Marathon is a particular race and it is capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines have an error in them.

Example:	a. My club, the west end athletic club, went to	a. 4,5,6,7
	b. see the superbowl game last year.	b. 3,4

		Numbers of words that should be capitalized:
1.	My community has a group called the cultural	1. 8
2.	awareness committee that sponsors several clubs.	2. 1, 2
3.	The polynesian club is very active. Besides people	3. 2, 3
4.	from the Hawaiian Islands, there are several samoans	4. 8
5.	in the group. The african roots club is another	5. 5, 6, 7
6.	active group. It is for people who are interested	6. none
7.	in black culture and history. There are several	7. 2
8.	religious clubs, such as the christian seekers club.	8. 6, 7, 8
9.	Jews and buddhists also have special clubs. Next	9. 3
10.	month, the clubs are holding "cultural awareness day".	10. 6, 7, 8
11.	A special "black art auction" will be held.	11. 3, 4, 5
12.	Several clubs will sponsor the annual "international dinner",	12. 7, 8
13.	which will feature foods from different cultures and lands.	13. none

CHECK SHEET

Capitalization
Activity Sheet 5A
Languages and Specific Courses

Name_____

Names of languages, such as Russian and German, are always capitalized. School subjects such as biology are not capitalized, but specific courses such as Biology 201 or Modern Poetry are capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines have an error in them.

Example:
a. The three courses I took were chinese, — a. 7
b. creative writing, and a physics course. — b. 1,2

		Numbers of words that should be capitalized:
1.	Danny is taking english and math classes in	1. 4
2.	night high school. His friend, Anne, is	2. none
3.	taking spanish. Danny speaks spanish very well,	3. 2, 5
4.	so he sometimes helps Anne. In return, she helps	4. none
5.	him with his math course, algebra 101. The night	5. 6
6.	high school also has courses in french and	6. 7
7.	history. Danny took history 201 last year. He	7. 4
8.	doesn't like history courses as much as he likes	8. none
9.	english courses. However, he needs to take a	9. 1
10.	course called history of western europe next	10. 3, 5, 6
11.	semester. He would rather take english literature	11. 6, 7
12.	or a math course. Anne has promised to help him next	12. none
13.	semester so he can finish history 205 with a good grade.	13. 6

CHECK SHEET

Capitalization
Activity Sheet 6A
Honorifics

Name _____

Honorifics are special titles given to people. They are always capitalized. Sometimes common nouns are used as honorifics. For instance, the word "captain" is a common noun, so it isn't capitalized. But if you use it to refer to a specific person, such as Captain Black, then it must be capitalized because it is an honorific.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines may have an error in them.

Example: a. The preacher at our church is reverend Walter Dobbs. a. 7

		Numbers of words that should be capitalized:
1.	Many people have titles in front of their names,	1. none
2.	such as doctor Johnson. Titles such as	2. 3
3.	captain Smith are called honorifics. They show	3. 1
4.	honor to someone who has a special position, such	4. none
5.	as general Brown. Honorifics are often abbreviated	5. 2
6.	or shortened, like the word "mister" is abbreviated	6. none
7.	in the title "mr. Thompson". Other honorifics are	7. 4
8.	not usually abbreviated, such as lord Nelson. The	8. 6
9.	honorific to be used when talking to a judge is "your	9. 11
10.	honor". A judge's name might be written, "the honorable	10. 1, 8, 9
11.	Sandra Day O'Connor". She might also be called	11. none
12.	"judge O'Connor", because the word "judge" can be an	12. 1
13.	honorific. The word "sergeant" is abbreviated	13. none
14.	in the title, sgt. Williams. The superintendent of	14. 4
15.	a school might be called superintendent Rossini.	15. 6

CHECK SHEET

Capitalization
Activity Sheet 7A
Book and Magazine Titles

Name_____

Magazine titles, such as"Sunset"and"National Geographic", are always capitalized. All the important words in book titles are capitalized, but not the little or unimportant ones. For instance, all the words in the book title The Way West are important, so they are all capitalized. But in the book title The Prime of Miss Jean Brodie, the word "of" is not important, so it is not capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all lines may have an error in them.

Example:	a. The newest issue of "playboy" has a good	a. 5
	b. article on sailing.	b. none

		Numbers of words that should be capitalized:
1.	Manuals such as the soldier's manual of common tasks	1. 5,6,8,9
2.	can help you learn your Army job. Some books deal	2. none
3.	with specific jobs, too, like a book called the	3. none
4.	uniform plumbing code. Even magazines such as	4. 1,2,3
5.	"mechanics illustrated" can teach you more about	5. 1,2
6.	your job. One manual which helps clerks and supplymen	6. none
7.	is called the army maintenance management schedule.	7. 3,4,5,6,7
8.	There is a popular cookbook called the joy of cooking.	8. 7,8,10
9.	The magazine called "car and driver" is a good one for	9. 4,6
10.	auto buffs. A book which helps people to budget is	10. none
11.	called how to manage money. An Army manual called land	11. 2,4,5,10
12.	navigation is very useful for troops in the field. You	12. 1
13.	can find many good Army texts, like one called rifle	13. 10
14.	marksmanship, in your MOS library. Magazines like	14. 1
15.	"popular electronics" and others to help you in your job	15. 1,2
16.	can be found in your local library or bookstore.	16. none

CHECK SHEET

Capitalization
Activity Sheet 8A
Lines and Titles of Poetry

Name_____

Poem titles are like book titles. All the important words should be capitalized. Also, the first word of every line of poetry should be capitalized.

Instructions: Count from the left of each line to determine the number of each word that should be capitalized. Write the number or numbers on the short line to the right. Be careful! Not all the lines may have an error in them.

Example: a. The last line of the poem called "mending wall" is: a. 8,9

b. he says again, "Good fences make good neighbors". b. 1

		Numbers of words that should be capitalized:
1.	This short poem, called "fire and ice", was	1. 5,7
2.	written by Robert Frost, an American poet:	2. none
3.	some say the world will end in fire,	3. 1
4.	some say in ice.	4. 1
5.	from what I've tasted of desire	5. 1
6.	I hold with those who favor fire.	6. none
7.	but if it had to happen twice,	7. 1
8.	I think I know enough of hate	8. none
9.	to say that for destruction, ice	9. 1
10.	is also great	10. 1
11.	and would suffice.	11. 1

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Name _____

MODULE PREVIEW

PUNCTUATION

Instructions: Decide which punctuation mark is left out of each line. Mark it in the answer space to the right. Then count from the left and determine the number of the word closest to where the missing mark belongs. Mark your answer in the answer space to the right.

NOTE: Some lines are <u>not</u> numbered and are <u>not</u> items.

Example:

	Missing Punctuation Mark					Closest Word Number				
	,	.	!	?	"	1	2	3	4	5
1. "What" asked SGT Thomas. "Did	○	○	○	●	○	●	○	○	○	○
I hear you say that										
	,	'	?	"	.	1	2	3	4	5
2. you dont have a helmet?"	○	●	○	○	○	○	●	○	○	○

		"	,	.	?	!	1	2	3	4	5
1. "Men " said SGT Paine, "today	1.	○	○	○	○	○	○	○	○	○	○
		?	'	.	!	,	1	2	3	4	5
2. were going to learn something	2.	○	○	○	○	○	○	○	○	○	○
		?	"	,	!	'	1	2	3	4	5
3. about masking. Of course it's	3.	○	○	○	○	○	○	○	○	○	○
		.	?	"	'	,	1	2	3	4	5
4. very important. First of all	4.	○	○	○	○	○	○	○	○	○	○
how many of you brought											
		?	"	,	.	!	1	2	3	4	5
5. your masks today " he continued.	5.	○	○	○	○	○	○	○	○	○	○
		?	"	,	.	!	1	2	3	4	5
6. Of twenty men there only	6.	○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
7. one, Williams didn't raise his	7.	○	○	○	○	○	○	○	○	○	○
		?	"	.	!	'	1	2	3	4	5
8. hand. "Williams" shouted the platoon	8.	○	○	○	○	○	○	○	○	○	○
		?	"	.	,	'	1	2	3	4	5
9. sergeant. Where's your mask?" Williams	9.	○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
10. said "I don't know. It	10.	○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
11. was on PVT Romeros bunk."	11.	○	○	○	○	○	○	○	○	○	○
PVT Romero said, "I found											
		?	"	.	'	,	1	2	3	4	5
12. a mask an M17A1, on	12.	○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
13. my bunk but it wasn't	13.	○	○	○	○	○	○	○	○	○	○

Punctuation
Module Preview, Continued

Name_____

		Missing Punctuation Mark					Closest Word Number				
		"	,	.	?	!	1	2	3	4	5
14. marked sir. That was over	14.	0	0	0	0	0	0	0	0	0	0
		?	'	.	!	,	1	2	3	4	5
15. two weeks ago, on Monday	15.	0	0	0	0	0	0	0	0	0	0
March 22. I turned the											
		.	?	"	'	,	1	2	3	4	5
16. mask in at the Co	16.	0	0	0	0	0	0	0	0	0	0
		?	"	,	.	'	1	2	3	4	5
17. Orderlys office." The sergeant shouted,	17.	0	0	0	0	0	0	0	0	0	0
		?	"	,	.	!	1	2	3	4	5
18. "Williams Go back to the	18.	0	0	0	0	0	0	0	0	0	0
		?	"	,	.	!	1	2	3	4	5
19. company area. Get your mask	19.	0	0	0	0	0	0	0	0	0	0
		?	"	.	'	,	1	2	3	4	5
20. web gear hood, and carrier!	20.	0	0	0	0	0	0	0	0	0	0

PUNCTUATION MODULE

PREVIEW ANSWER KEY AND DIAGNOSTIC

Instructions: Decide which punctuation mark is left out of each line. Mark it in the answer space to the right. Then count from the left and determine the number of the word closest to where the missing mark belongs. Mark your answer in the answer space to the right.

NOTE: Some lines are <u>not</u> numbered and are <u>not</u> items.

		"	,	.	?	!	1	2	3	4	5	IF WRONG, ASSIGN:
1.	"Men " said SGT Paine, "today	○	●	○	○	○	●	○	○	○	○	1. 4,8,13
2.	were going to learn something	? ○	' ●	. ○	! ○	, ○	1 ●	2 ○	3 ○	4 ○	5 ○	2. 11,13
3.	about masking. Of course it's	? ○	" ○	, ●	! ○	' ○	1 ○	2 ○	3 ○	4 ●	5 ○	3. 5,13
4.	very important. First of all	. ○	? ○	" ○	' ○	, ●	1 ○	2 ○	3 ○	4 ○	5 ●	4. 5,13
	how many of you brought											
5.	your masks today " he continued.	? ●	" ○	, ○	. ○	! ○	1 ○	2 ○	3 ●	4 ○	5 ○	5. 9,13
6.	Of twenty men there only	? ○	" ○	, ●	. ○	! ○	1 ○	2 ○	3 ○	4 ●	5 ○	6. 5,13
7.	one, Williams didn't raise his	? ○	" ○	. ○	' ○	, ●	1 ○	2 ●	3 ○	4 ○	5 ○	7. 3,13
8.	hand. "Williams" shouted the platoon	? ○	" ○	. ○	! ●	' ○	1 ○	2 ●	3 ○	4 ○	5 ○	8. 1,9,13
9.	sergeant. Where's your mask?" Williams	? ○	" ●	. ○	, ○	' ○	1 ○	2 ●	3 ○	4 ○	5 ○	9. 9,13
10.	said "I don't know. It	? ○	" ○	. ○	' ○	, ●	1 ●	2 ○	3 ○	4 ○	5 ○	10. 8,13
11.	was on PVT Romeros bunk."	? ○	" ○	. ○	' ●	, ○	1 ○	2 ○	3 ○	4 ●	5 ○	11. 10,13
	PVT Romero said, "I found											
12.	a mask an M17A1, on	? ○	" ○	. ○	' ○	, ●	1 ○	2 ●	3 ○	4 ○	5 ○	12. 3,13
13.	my bunk but it wasn't	? ○	" ○	. ○	' ○	, ●	1 ○	2 ●	3 ○	4 ○	5 ○	13. 7,13

		"	,	.	?	!	1	2	3	4	5	IF WRONG, ASSIGN:
14.	marked sir. That was over	O	●	O	O	O	●	O	O	O	O	14. 4,13
15.	two weeks ago, on Monday	? O	' O	. O	! O	, ●	1 O	2 O	3 O	4 O	5 ●	15. 6,13
	March 22. I turned the											
16.	mask in at the Co	. ●	? O	" O	' O	, O	1 O	2 O	3 O	4 O	5 ●	16. 12,13
17.	Orderlys office." The sergeant shouted,	? O	" O	, O	. O	' ●	1 ●	2 O	3 O	4 O	5 O	17. 10,13
18.	"Williams Go back to the	? O	" O	, O	. O	! ●	1 ●	2 O	3 O	4 O	5 O	18. 1,13
19.	company area. Get your mask	? O	= O	; ●	. O	! O	1 O	2 O	3 O	4 O	5 ●	19. 2,13
20.	web gear hood, and carrier!	? O	" O	. O	' O	, ●	1 O	2 ●	3 O	4 O	5 O	20. 7,13

Name_____

MODULE RECORD SHEET

PUNCTUATION

OBJECTIVE: Given any sentence, punctuate it properly according to the rules for punctuation.

SAMPLE TEST ITEMS:

1. Determine which punctuation mark has been left out of the following sentence:

	,	?	!	"	.
a. "Watch out for the truck " he shouted.	O	O	●	O	O

2. Count from the left to find the number of the word closest to the punctuation mark that has been left out.

	1	2	3	4	5	6	7
a. "Watch out for the truck " he shouted.	O	O	O	O	●	O	O

INTRODUCTION TO PUNCTUATION

Punctuation marks are the "road signs" of sentences. They tell you where to slow down or stop. They also tell you which parts of the sentence belong together, and they help to make the sentence clearer. The activity sheets will tell you how to use punctuation in sentences. Work through all the activity sheets that have been circled below. You can check your own work using the Checklists your teacher has shown you. If you have any questions about punctuation, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for punctuation, ask to take the Module Review.

ACTIVITY SHEETS (Do those that are circled)

1.	End Punctuation	1A	1B
2.	Commas in Series	2A	2B
3.	Commas: Appositives	3A	3B
4.	Commas: Direct Address	4A	4B
5.	Commas: Introductory Words and Parenthetical Expressions	5A	5B
6.	Commas: Dates and Addresses	6A	6B
7.	Commas: Phrases, Clauses, and Compound Sentences	7A	7B
8.	Commas: Quotes	8A	8B
9.	Quotations	9A	9B
10.	Apostrophes: Ownership	10A	10B
11.	Apostrophes: Contractions	11A	11B
12.	Abbreviations	12A	12B
13.	Punctuation Practice	13A	13B

Name_____

MODULE REVIEW

PUNCTUATION

Instructions: Decide which punctuation mark (if any) is left out of each line. Mark it in the answer space to the right. Then count from the left and determine the number of the word closest to where the missing mark belongs. Mark your answer in the answer space to the right.

NOTE: Some lines are <u>not</u> numbered and are <u>not</u> items.

Example:

	Missing Punctuation Mark					Closest Word Number				
	,	.	!	?	"	1	2	3	4	5
1. "What" asked SGT Thomas. "Did	○	○	○	●	○	●	○	○	○	○
I hear you say that										
2. you dont have a helmet?"	,	'	?	"	.	1	2	3	4	5
	○	●	○	○	○	○	●	○	○	○

		Missing Punctuation Mark					Closest Word Number				
		"	,	.	?	!	1	2	3	4	5
1.	Last year I decided to	1. ○	○	○	○	○	○	○	○	○	○
	buy a new car. I										
		?	"	.	'	,	1	2	3	4	5
2.	wanted one with five speeds	2. ○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
3.	mag wheels, and fuel injection	3. ○	○	○	○	○	○	○	○	○	○
	I found the car I										
		?	"	,	!	'	1	2	3	4	5
4.	wanted but it cost too	4. ○	○	○	○	○	○	○	○	○	○
	much. So I went to										
		?	'	.	!	,	1	2	3	4	5
5.	A.C.S and told the man	5. ○	○	○	○	○	○	○	○	○	○
		?	"	,	!	'	1	2	3	4	5
6.	there "I need a car	6. ○	○	○	○	○	○	○	○	○	○
		.	?	"	'	,	1	2	3	4	5
7.	loan sir." He said, "You	7. ○	○	○	○	○	○	○	○	○	○
	need to go to the										
		?	"	.	'	,	1	2	3	4	5
8.	Federal Credit Union. Theyll help	8. ○	○	○	○	○	○	○	○	○	○
		?	"	.	'	,	1	2	3	4	5
9.	you." I drove my brothers	9. ○	○	○	○	○	○	○	○	○	○
	car to the Credit Union,										
		?	"	.	,	'	1	2	3	4	5
10.	located at the Main PX	10. ○	○	○	○	○	○	○	○	○	○

Name_____

Module Review (Continued)
Punctuation

		Missing Punctuation Mark					Closest Word Number				
		?	"	,	.	!	1	2	3	4	5
11.	Fort Ord, California. May I	11. O	O	O	O	O	O	O	O	O	O
12.	help you" asked the woman	12. O	O	O	O	O	O	O	O	O	O
13.	there. "Yes please," I answered.	13. O	O	O	O	O	O	O	O	O	O
14.	"Id like to get a	14. O	O	O	O	O	O	O	O	O	O
15.	loan for a car a	15. O	O	O	O	O	O	O	O	O	O
16.	used one." "Well" she told	16. O	O	O	O	O	O	O	O	O	O
17.	me, you need to bring	17. O	O	O	O	O	O	O	O	O	O
18.	in a pay voucher and	18. O	O	O	O	O	O	O	O	O	O
	you must fill out these										
		"	,	.	?	!	1	2	3	4	5
19.	forms" The car, a red	19. O	O	O	O	O	O	O	O	O	O
		?	'	.	!	,	1	2	3	4	5
20.	1977 Scirocco is now mine.	20. O	O	O	O	O	O	O	O	O	O

PUNCTUATION MODULE

MODULE REVIEW DIAGNOSTIC

Instructions: Decide which punctuation mark (if any) is left out of each line. Mark it in the answer space to the right. Then count from the left and determine the number of the word closest to where the missing mark belongs. Mark your answer in the answer space to the right.

NOTE: Some lines are not numbered and are not items.

Example:

	Missing Punctuation Mark					Closest Word Number				
	,	.	!	?	"	1	2	3	4	5
1. "What" asked SGT Thomas. "Did	○	○	○	●	○	●	○	○	○	○
I hear you say that										
	,	'	?	"	.	1	2	3	4	5
2. you dont have a helmet?"	○	●	○	○	○	○	●	○	○	○

		"	,	.	?	!	1	2	3	4	5	IF WRONG, ASSIGN:
1.	Last year I decided to	○	●	○	○	○	○	●	○	○	○	1. 7,13
	buy a new car. I											
2.	wanted one with five speeds	? ○	" ○	. ○	' ○	, ●	1 ○	2 ○	3 ○	4 ○	5 ●	2. 2,13
3.	mag wheels, and fuel injection	? ○	" ○	. ●	' ○	, ○	1 ○	2 ○	3 ○	4 ○	5 ●	3. 1,13
	I found the car I											
4.	wanted but it cost too	? ○	" ○	, ●	! ○	' ○	1 ●	2 ○	3 ○	4 ○	5 ○	4. 7,13
	much. So I went to											
5.	A.C.S and told the man	? ○	' ○	. ●	! ○	, ○	1 ●	2 ○	3 ○	4 ○	5 ○	5. 12,13
6.	there "I need a car	? ○	" ○	, ●	! ○	' ○	1 ●	2 ○	3 ○	4 ○	5 ○	6. 8,13
7.	loan sir." He said, "You	. ○	? ○	" ○	' ○	, ●	1 ●	2 ○	3 ○	4 ○	5 ○	7. 4,13
	need to go to the											
8.	Federal Credit Union. Theyll help	? ○	" ○	. ○	' ●	, ○	1 ○	2 ○	3 ○	4 ●	5 ○	8. 11,13
9.	you." I drove my brothers	? ○	" ○	. ○	' ●	, ○	1 ○	2 ○	3 ○	4 ○	5 ●	9. 10,13
	car to the Credit Union,											
10.	located at the Main PX	? ○	" ○	. ○	, ●	' ○	1 ○	2 ○	3 ○	4 ○	5 ●	10. 6,13

		Missing Punctuation Mark					Closest Word Number					IF WRONG, ASSIGN:
		?	"	,	.	!	1	2	3	4	5	
11.	Fort Ord, California. May I	○	●	○	○	○	○	○	○	●	○	11. 9,13
12.	help you" asked the woman	●	○	○	○	○	○	●	○	○	○	12. 1,9,13
13.	there. "Yes please," I answered.	○	○	○	○	●	○	●	○	○	○	13. 5,13
14.	"Id like to get a	○	○	○	●	○	●	○	○	○	○	14. 11,13
15.	loan for a car a	○	○	●	○	○	○	○	○	●	○	15. 3,13
16.	used one." "Well" she told	○	○	●	○	○	○	○	●	○	○	16. 5,8,13
17.	me, you need to bring	○	●	○	○	○	○	●	○	○	○	17. 9,13
18.	in a pay voucher and	○	○	○	○	●	○	○	○	●	○	18. 7,13
	you must fill out these											
19.	forms" The car, a red	○	○	●	○	○	●	○	○	○	○	19. 1,13
20.	1977 Scirocco is now mine.	○	○	○	○	●	○	●	○	○	○	20. 3,13

CHECK SHEET
Punctuation
Activity Sheet 1A
End Punctuation

Name_____

When you write a sentence, you always have to end it with a punctuation mark. There are only three punctuation marks that you can use at the end of a sentence. They are the period, the question mark, and the exclamation point.

A period is used at the end of a sentence that tells you something or tells you to do something. This is called a declarative sentence. You use periods more than you use question marks or exclamation points.

A question mark is used at the end of a sentence that asks a question. This is the only time it is used.

An exclamation point is used at the end of a sentence that exclaims. A sudden emotion like joy, fear, happiness, pain, or anger, is an exclamation. Another kind of exclamation is a sentence that talks about sudden feeling or emphasizes something. An exclamation point is used to make a sentence more important.

Here are samples of the three kinds of sentences:

"Declarative" sentence: Use a period.	It is raining today. We are going on maneuvers.
Question. Use a question mark.	When will the rain stop? Should we wear our ponchos?
Exclamation. Use an exclamation point.	This must be a hurricane! Let's get out of here!

Instructions: Read the sentences below. Decide which punctuation mark each one needs; a period, a question mark, or an exclamation point. Then circle the correct punctuation mark to the right of the sentence.

Example:	1. Is it Friday	.	(?)	!
	2. I need a new fatigue jacket	(.)	?	!
	3. Watch out	.	?	(!)

1.	What should you do if a soldier is bleeding	.	(?)	!
2.	Check for more than one wound	(.)	?	!
3.	Cut the clothing away from the wound	(.)	?	!

Punctuation
Activity Sheet 1A
End Punctuation

Name_____

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Exclamation. Use an exclamation point.	This must be a hurricane! Let's get out of here!

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Example:	1. Is it Friday	.	(?)	!
	2. I need a new fatigue jacket	(.)	?	!
	3. Watch out	.	?	(!)

1.	What should you do if a soldier is bleeding	.	?	!
2.	Check for more than one wound	.	?	!
3.	Cut the clothing away from the wound	.	?	!

Punctuation
Activity Sheet 1A
End Punctuation continued

Name_____

4.	Be careful	.	?	!
5.	If you touch the wound, you could make it dirtier	.	?	!
6.	Take a pressure dressing from the kit	.	?	!
7.	How do you unwrap it	.	?	!
8.	Twist it to break the paper wrapper	.	?	!
9.	Don't get it dirty	.	?	!
10.	Put the clean side against the wound	.	?	!
11.	Which is the clean side	.	?	!
12.	It is the side that is white	.	?	!
13.	Tie the bandage onto the wound	.	?	!
14,	Is he still bleeding	.	?	!
15.	He might bleed to death	.	?	!
16.	Press on the top of the bandage with your hand	.	?	!
17.	Keep pressing for 5-10 minutes	.	?	!
18.	You can also tie a thick pad over the bandage	.	?	!
19.	What else should I do	.	?	!
20.	Elevate the wounded part	.	?	!
21.	Use digital pressure	.	?	!
22.	Don't ever use that tourniquet unless you really need to	.	?	!

Punctuation
Activity Sheet 2A
Commas in Series

Name_____

Commas tell you to pause when you are reading a sentence. They set off words or groups of words and help to make the sentence clear. One way to use commas is to separate words in a series. When you have a list of things in a sentence, you separate the things in the list by using commas.

For instance, if you read this sentence:

The soldiers were issued ammo clips web belts and helmet liners.

Can you tell how many things were issued to the soldiers?

But if you put in commas, the sentence is clear:

The soldiers were issued ammo clips, web belts, and helmet liners.

Instructions: The sentences below are written in short lines. They need commas to set off things in a series. Decide where the commas go. Then count from the left of each line and write down the number of each word that needs a comma after it. Write the numbers on the short line to the right. Be careful! Some of the lines don't need commas. If a line doesn't need a comma, write "none" in the answer blank.

Example: A first aid kit has a case dressing — 7, 8
burn mixture and an envelope cover — 2

1. Four ways to stop bleeding are to use a pressure bandage use digital pressure elevate the wound and use a tourniquet. 1. _____

2. You need to unwrap the bandage put it on the wound wrap it around and tie it in place. 2. _____

3. You can use a rock log helmet or boots to elevate the limb. 3. _____

4. Don't elevate a broken arm or leg because it can cause pain increase shock or damage nerves. 4. _____

5. Some digital pressure points are in the wrist elbow shoulder upper arm and neck. 5. _____

6. Don't use a tourniquet unless you already tried direct pressure elevation and digital pressure. 6. _____

Punctuation
Activity Sheet 3A
Commas: Appositives

Name_____

An appositive is a word or a group of words that tells you more about something in a sentence. It makes you "more positive" of what the sentence is talking about. If you read the words:

SP4 SMITH IS ON LEAVE.

You might not really know who is on leave. There are a lot of SP4 Smiths in the Army. But if you read,

SP4 SMITH, OUR SQUAD LEADER, IS ON LEAVE.

then you are more positive about who the sentence is talking about.

You use commas to set off an appositive. Use a comma between the appositive and the rest of the sentence. If the appositive comes in the middle of the sentence, you use one comma in front of it and another comma after it.

Instructions: Read the sentences below. They are written in short lines. Look for the appositives. When you find one, decide where the commas go. Then count from the beginning of each line and write down the numbers of any words that need commas after them. Be Careful! Some of the sentences might not have an appositive.

Example: This weapon a LAW can be used against tanks. 2, 4

1. The LAW a one-man weapon should be checked before you fire it. 1._____
2. Pull out the pull pin a small pin with a ring. 2._____
3. Rotate the rear cover a cap over the end downward. 3._____
4. The sling assembly for carrying the launcher will fall free. 4._____
5. Pull sharply backward on the rear sight cover a box over the rear sight to extend the launcher. 5._____
6. Try to push it back together to check that it is locked. 6._____
7. Put the launcher a tube about 3 feet long on your shoulder. 7._____
8. Check and clear the backblast area the area behind you. 8._____
9. Move the safety handle to ARM. 9._____
10. Keep it pointed down range the direction of the enemy while it is on your shoulder. 10._____

Punctuation
Activity Sheet 4A
Commas: Direct Address

Name_____

When you talk to people in a sentence, you use commas to set off their names. If the name or the title of the person comes in the middle of the sentence, you need to put a comma in front of it and another comma after it.

Instructions: Read the sentences below. When a sentence talks to someone, figure out where the commas should go. Then count from the left and write down the numbers of any words that need commas after them.

Example:

"What time is the formation SGT Johnson?" 5

1. "All right men here's what we're going to do today. _____
2. Rodriguez you go down to supply and get some paint. _____
3. The brushes Collins are in the storeroom. _____
4. Smith and Brubaker you start policing the area. _____
5. It's up to you Washington to mow the grass. _____
6. You two Thomas and Avila help paint the rocks by the path. _____
7. Jones and Simmons you trim the trees. _____
8. The bushes by the north door are your problem Paige. _____
9. Franklin you pull weeds and rake up the grass. _____
10. You come with me to headquarters Tafua and we'll get those new signposts." _____

Punctuation
Activity Sheet 5A
Commas: Introductory Words and
Parenthetical Expressions

Name_____

Commas are used to set off words that don't really relate to the rest of the sentence. These can be introductory words like "now"or "oh" or "yes". They can also be parenthetical expressions or extra thoughts of the writer's, like "in my opinion" or "I think". These words don't really make much difference in the sentence. They are just extra words, so you set them off with commas.

Instructions: Read the lines below. If you find any introductory words or parenthetical expressions, they will need commas. Count from the left of each line and write the number of each word that needs a comma after it. Write the numbers on the answer spaces to the right. Be careful! Some lines don't have an answer space next to them. There aren't any commas missing in these lines.

Example:

Actually the M17A1 mask is a very	1
important piece of equipment. You	
need to check it I think every time	4, 6
you go on maneuvers.	

You have nine seconds I believe	_____
to put on your mask. First you	_____
hold your breath. No don't drop	_____
your helmet. Hold it between your	
knees I think. Your mask carrier	_____
the book says should be opened with	_____
your left hand. Take the mask out	_____
of course with your right hand. Next	_____
slide your thumbs up inside the mask	
to open it. After that you put your	_____
chin in the chin pocket and pull the	
head harness over your head. Seal	
and clear the mask of course and check	_____
for leaks. Yes it's an easy task if	_____
you practice.	

Punctuation
Activity Sheet 6A
Commas: Dates and Addresses Name_____

Use commas when you write a date or an address that has more than one part. How do you tell if it has more than one part? Here are the parts of a date:

Examples:

The day	The date	The year
Tuesday	May 10	1969
Friday	March 23	1982

If you use any of these parts alone, you don't need to use commas. But, if you use two or more parts, you need to put a comma after every part. For instance, look at this sentence:

> The message I sent on Monday was lost.

You don't need commas around the date because the sentence uses only one part of a date. But in this sentence

> The message I sent on Monday, April 5, was lost.

You need commas after every part of the date.

The same rule is used for addresses. Here are some parts of addresses.

Street Name and Number	The Apt. Number	The Town	The State & Zip Code
708 Lexington Avenue	Apartment #3	Monterey	California 93940

If you use just one part, like this,

> "He moved to 708 Lexington Avenue last weekend."

You can see you don't need any commas after the address. But in this sentence --

> "He moved to 708 Lexington Avenue, Apartment 3, Monterey, California, last weekend."

You need commas after every address part.

Punctuation
Activity Sheet 6A
Commas: Dates and Addresses
continued

Name_____

Instructions: Read the lines below. You will find some places where you need commas. Count from the beginning of the line and write down the number of any word that should have a comma after it. Write the numbers on the answer spaces to the right. Be careful! Some of the lines don't need any commas. If you find a line like that, write "none" on the answer space.

Example:

I moved from 1177 Front Street Jackson Mississippi	6,7,8
to Fort Ord this year. It was on February 5 1982	10,11
that the moving van came. I got here on the next	none
Friday in the afternoon.	none

On June 3 1980 I graduated	
from high school. I went to	
school at Pueblo High 1452	
Diamond Drive Los Alamos New Mexico	
87544. I decided to go into	
the Army, so on June 15 I went	
to the recruiting station. It is	
at 11 Pajaro Street Santa Fe New Mexico.	
After I joined the Army, I trained at	
Fort Riley Kansas. Then on January	
6 1982 I was transferred to	
Fort Ord for more training. This year,	
I will go to Kaiserslautern	
Germany. I am supposed	
to arrive there on September 14.	

Punctuation
Activity Sheet 7A
Commas: Phrases, Clauses, and
Compound Sentences

Name_____

A comma is a road sign in a sentence. It tells you to slow down or pause. An easy way to tell where you should put the commas in a sentence is to say the sentence out loud. You can feel the pauses.

Commas separate the parts of a sentence. They separate phrases or clauses, and they separate the parts of a compound sentence. A compound sentence is one that is made out of two smaller sentences. It needs a comma to separate the ideas.

Look at these sentences. Each one needs a comma for a different reason.

1. When PVT Herrera finished shooting, his sergeant praised him.

   You need a comma here after the introductory clause. You can feel the pause. If you did not have a pause, it would sound like PVT Herrera was shooting his sergeant!

2. Expecting a bad storm, we all took our raincoats.

   In this sentence, the first phrase explains the second part. You can feel the pause. You put a comma after an introductory phrase that explains the rest of the sentence.

3. We ran all the way to the parade ground, but First Platoon got there before we did.

   This is really two short sentences. They are linked together by the word "but". You need a comma to separate the two short sentences. You can feel the pause.

Instructions: Read the sentences on the next page. Say them to yourself and feel the pauses. You will need to put commas after introductory phrases and clauses. You will also need them between the two halves of a compound sentence. When you find a place that needs a comma, count from the beginning of the line. Find the number of the word that needs a comma after it. Put the number in the answer space to the right.

Punctuation
Activity Sheet 7A
Commas: Phrases, Clauses, and
Compound Sentences
Continued

Name_____

1. When you are firing the LAW you have to meet the standards. _____

2. You will need to fire at stationary targets and you will need to fire at moving targets. _____

3. Of three rockets fired at stationary targets two must hit the target. _____

4. Of four rockets fired at moving targets two must hit the target. _____

5. There are two sights and both sights flip up. _____

6. The rear sight is a peepsight but the front sight is a clear plastic leaf. _____

7. Even though there are stadia lines on the front sight you should not use them. _____

8. Because they are not accurate they are no longer used. _____

9. When you are sighting on stationary targets place the correct range cross on the center of the target. _____

10. For slow moving targets put the correct lead cross on the center of mass. _____

11. Targets moving at 5 MPH or less are slow and targets moving at more than 5 MPH are fast. _____

12. For slow targets the lead cross is on the center of mass. _____

13. For fast targets the lead cross is on the front edge of the target. _____

14. An oblique target may move faster than 5 MPH but you aim as if it were a slow target. _____

Punctuation
Activity Sheet 8A
Commas: Quotes

Name_____

When you write down exactly what someone has said, that is called a quote. You use a comma after the phrase that introduces a quote. You also use commas if you interrupt the quote with any kind of phrase.

Instructions: Read the sentences below and decide where the commas go. Count from the beginning of each line and write down the number of each word that should have a comma after it. Write your answers in the answer spaces.

Examples:

1. "That" he said "is an M16A1 rifle." 1, 3
2. The soldier asked "Where are the spare ammo clips?" 3

1. The squad leader asked "What are the four lifesaving measures?" _____
2. "Well" said PVT Williams "the first one is to open the airway." _____
3. SP4 Samoa said "That's not quite right." _____
4. "You must also" he said "restore the breathing and heartbeat." _____
5. "Okay" said SGT Perez "now what are the other three steps?" _____
6. PVT Tarpey said "The second one is to stop the bleeding." _____
7. "Right" added PVT Donaldson "and then you prevent shock." _____
8. "The last lifesaving measure" said SP4 Figueroa "is to dress and bandage the wound." _____
9. The squad leader asked him "Why do you do that?" _____
10. Figueroa answered "To avoid infection." _____

Punctuation
Activity Sheet 9A
Quotations

Name_____

When you write down what a person said, that is called a quote or a quotation. There are two kinds of quotes. The first is called the indirect quotation. It tells what a person said without using his or her exact words. The second kind is called a direct quotation. It uses the exact words that the person said.

Here are samples of the two kinds of quotes:

1. The sergeant told four men to police up the company area.

   This is an indirect quotation. It tells you what the sergeant said without using his exact words.

2. The sergeant said, "You four men police up the company area."

   This a direct quotation. It tells you the exact words the sergeant said.

When you write a direct quotation, you need to use quotation marks. Use them at the beginning and the end of a quotation. You also need to use them if the quote is interrupted or broken in two parts. They set off the exact words somebody said from the rest of the sentence.

Here are some rules about quotations and quotation marks.

1. Always start a direct quotation with a capital letter.
   Example: Danny said, "Let's go down to the snack bar."

2. If a quote is interrupted in the middle of a sentence, don't start the second part with a capital letter.
   Example: "Hurry up," said Danny, "we don't have much time."

3. Always put commas or periods inside closing quotation marks. If the quotation is a question or an exclamation, then you put the question mark or exclamation point inside the quotation marks. Otherwise, it goes outside.
   Example: "Okay," said Tom, "I'm coming."

   "Watch out for the truck!" yelled Danny.

   Did you hear the truck driver say, "I'm sorry"?

4. If a direct quote is more than one sentence long, you only have to put quotation marks at the very beginning and the very end.
   Example: He said, "I'm sorry I almost backed into you. I didn't look in my rear view mirror."

Punctuation
Activity Sheet 9A
Quotations - continued

Name_____

Instructions: Read the sentences below. Put the quotation marks where they belong. If you see a capital letter that should be a small letter, cross it out and put a small letter above it. If you see a small letter that should be a capital, cross it out and put the capital letter above it.

Example: "Well," said SGT Johnson, "the SQT is next week."

Okay, said SGT Ames, You're going to learn how to aim the LAW. He showed us a picture of the front sight, and said, the curved lines are called stadia lines. They're not accurate, so don't use them. When PVT Williams heard SGT Ames say that, he looked closely at the sight. PVT Williams asked, what are the cross marks on the edges of the sight? SGT Ames saw where PVT Williams was pointing. He could see the cross marks clearly. They are lead crosses, said SGT Ames, and they help you apply lead to a moving target. SGT Ames picked up a piece of chalk so he could write on the blackboard. He said, first, you figure your range. Then, you put the correct range line on the target. He drew a great big picture of a LAW sight and a big picture of a tank on the board. PVT Ruiz watched him. Where do we aim? asked PVT Ruiz. SGT Ames pointed at the picture of the tank. Usually the center of mass, he said. On a stationary target, he continued, You put the range line on the center of mass. PVT Soames raised his hand. What do you do, asked PVT Soames, If the target is moving? SGT Ames made two little cross marks on the picture of the tank. If it is a slow target, said Ames, You put the lead cross on the center of mass. But if it is a fast target, you put the lead cross on the front edge. SGT Ames put down his chalk. Are there any other questions? he asked.

Punctuation
Activity Sheet 10A
Apostrophes: Ownership

Name_____

Apostrophes are used to show ownership or possession. They are used with nouns or pronouns.

There are two ways to use apostrophes with nouns (that is, names of things).

1. If the noun talks about one person or thing, you make it possessive by adding 's.

   the rifle belonging to the soldier = the soldier's rifle
   the tail belonging to the dog = the dog's tail
   the car belonging to Ron = Ron's car

2a. If the noun talks about more than one person or thing, and it ends in s, you just stick an apostrophe on the end.

   the rifles belonging to the soldiers = the soldiers' rifles
   the tails belonging to the dogs = the dogs' tails

2b. If the noun talks about more than one person or thing, and it doesn't end in s, you put an 's on the end.

   the helmets of the men = the men's helmets
   the toys of the children = the children's toys

When you use pronouns, some of them are already possessive. They do not need an apostrophe. These pronouns are:

his, hers, its, ours, theirs, yours, and whose.

For other pronouns you need to add 's.

His is better than ours. (Doesn't need apostrophes)

Everyone's leave was cancelled. (needs 's.)
Nobody's equipment was lost.(needs 's).

Instructions: Read the sentences below. Put a line under every word that should show ownership. Then put what you would do to it in the answer space to the right. If you need to add an apostrophe, write ' in the blank. If you need to add an apostrophe and an s write 's in the blank. And if the word doesn't need tc be changed, write nothing in the blank.

Examples:

Jim mask has a broken lens. ___'s___

The officers houses are being painted. ___'___

Is this hat yours? ___nothing___

Punctuation
Activity She : 10A
Apostrophes: Ownership
Continued

Name_____

1. SGT Polk platoon went to the field. _____
2, His men were practicing for their SQT. _____
3. SP4 Riley squad practiced with grenades. _____
4. The men grenade launchers need to be cleaned. _____
5. All the hand grenades pins were bent. _____
6. It is everyone job to keep the equipment clean. _____
7. Several soldiers grenade launchers misfired. _____
8. SP4 Riley men did well at throwing the hand grenades. _____
9. SGT Polk showed them a grenade launcher barrel. _____
10. Its edge was bent and a shell would not fit into it. _____
11. He warned the men to keep their equipment in good condition. _____

Punctuation
Activity Sheet 11A
Apostrophes: Contractions

Name_____

Contractions are two words that have been made into one word. They are easy to learn. Just put an apostrophe wherever you take out letters.

Here are some examples of contractions:

can not = can't
do not = don't
he will = he'll

You can see that the apostrophe takes the place of the letters that have been left out.

Contractions are easy, but you have to be careful with them. For instance, its is the possessive form of it. But it's means it is. Don't get them confused. Here are some words that look the same when they are possessives or contractions:

John's going - John is going (contraction)
John's hat = the hat belonging to John (possessive)

The soldier's on duty - the soldier is on duty (contraction)
The soldier's rifle = the rifle belonging to the soldier (possessive)

Instructions: Read the words below. For the first ten, decide what two words were used to make the contraction. Then write the two words in the answer space. For the second ten, look at the two words. Then make a contraction and write it in the answer space.

Examples: we're — we are
she will — she'll

1.	isn't	_____	11.	we have	_____
2.	he's	_____	12.	Jim is	_____
3.	they're	_____	13.	they had	_____
4.	weren't	_____	14.	do not	_____
5.	let's	_____	15.	he would	_____
6.	who's	_____	16.	did not	_____
7.	we'll	_____	17.	it is	_____
8.	can't	_____	18.	I shall	_____
9.	you're	_____	19.	must not	_____
10.	doesn't	_____	20.	would not	_____

Punctuation
Activity Sheet 12A
Abbreviations

Name_____

Abbreviations are words or phrases that are shortened. Sometimes abbreviations are two or three letters long, or even longer. Sometimes they are only one letter.

When an abbreviation is only one letter long it is called an initial. This is because it is the first (or initial) letter of a word. Sometimes, an abbreviation is three or four initials in a row.

You need to put a period after every abbreviation and after every initial. If an abbreviation is two or more initials in a row, you need to put a period after every one.

Instructions: Here is a list of abbreviations and what they stand for. Put in the periods where they belong.

Example: street = st.
senior = sr.
United States Marine Corps = U.S.M.C.

1. advertisement = ad
2. anonymous = anon
3. attorney = atty
4. avenue = ave
5. Bachelor of Arts = B A
6. boulevard = blvd
7. Cash on Delivery = C O D
8. column = col
9. dozen = doz
10. Doctor = Dr
11. department = dept
12. et cetera (and so forth) = etc
13. foot = ft
14. inch = in
15. light = lt
16. Master of Ceremonies = M C
17. Medical Doctor = M D
18. Military Police = M P
19. Mister = Mr
20. Mistress = Mrs
21. number = no
22. ounce = oz
23. paid = pd
24. Police Department = P D
25. post meridian (afternoon) = p m
26. quart = qt
27. Reverend = Rev
28. senior = Sr
29. street = st
30. Saint = St
31. United States of America = U S A

Punctuation
Activity Sheet 13A
Punctuation Practice

Name_____

On this page, you can practice what you have learned about punctuation. The kinds of punctuation you need to know in order to work this page are:

End punctuation
Commas
Quotation Marks
Apostrophes
Punctuating Abbreviations

You have learned all these kinds of punctuation on the Activity Sheets you did. So this page will be easy to figure out.

Instructions: Decide which punctuation mark (if any) is left out of each line. Mark it in the answer space to the right. Then count from the left and determine the number of the word closest to where the missing mark belongs. Mark your answer in the answer space to the right.

NOTE: Some lines are <u>not</u> numbered and are <u>not</u> items.

Example:

	?	.	,	"	!	1	2	3	4	5
1. "Why do you think " asked	○	○	●	○	○	○	○	○	●	○
SGT Murphy, "that they are	?	.	,	"	!	1	2	3	4	5
2. called the four lifesaving methods?	○	○	○	●	○	○	○	○	○	●

	?	.	,	'	"	1	2	3	4	5
1. SGT Murphy said, "On Tuesday	○	○	○	○	○	○	○	○	○	○
May 12, you have your										
2. SQT " He looked right at	?	.	,	'	"	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
3. me and said, "Lets see	?	.	,	'	"	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
4. if SP4 Wilsons squad can	?	.	,	'	"	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
tell us how to control										
5. bleeding." "Well, I started, "my	?	.	,	'	"	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
6. men studied that sir, so	?	.	,	'	"	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
7. were ready." PVT Riley said,	?	!	.	'	,	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
8. The first method is to	.	"	,	'	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
9. apply a pressure dressing." Right,"	.	"	,	'	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
10. I told him "Now, can	.	"	,	'	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
you tell the sergeant what										
11. the second method is PVT	.	"	,	!	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
12. Riley " He said, "It is,	.	"	,	!	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○
13. I think to elevate the	.	"	,	!	?	1	2	3	4	5
	○	○	○	○	○	○	○	○	○	○

Punctuation
Activity Sheet 13A
Punctuation Practice
Continued

Name_____

	Missing Punctuation Mark					Closest Word Number				
	.	"	,	!	?	1	2	3	4	5
14. wounded part. "Good," I said.	O	O	O	O	O	O	O	O	O	O
15. "What is the third method ←	O	O	O	O	O	O	O	O	O	O
16. PVT Lee " "Use digital pressure,"	O	O	O	O	O	O	O	O	O	O
	.	?	,	'	!	1	2	3	4	5
17. he said without delay. "Now	O	O	O	O	O	O	O	O	O	O
	.	?	"	,	!	1	2	3	4	5
18. PVT Lee," I asked, can	O	O	O	O	O	O	O	O	O	O
you give me the fourth										
	.	?	"	,	'	1	2	3	4	5
19. method?" He said, "Its to	O	O	O	O	O	O	O	O	O	O
	.	?	"	,	'	1	2	3	4	5
20. use a tourniquet. But, he	O	O	O	O	O	O	O	O	O	O
	.	?	"	,	'	1	2	3	4	5
21. added, "you dont use the	O	O	O	O	O	O	O	O	O	O
tourniquet unless the first three										
	.	?	"	,	'	1	2	3	4	5
22. methods don't work do you?"	O	O	O	O	O	O	O	O	O	O
	.	?	"	!	'	1	2	3	4	5
23. "Right," I said. And why	O	O	O	O	O	O	O	O	O	O
	.	?	"	!	'	1	2	3	4	5
24. not " "Because," said Lee, "the	O	O	O	O	O	O	O	O	O	O
tourniquet can damage blood vessels										
	.	?	"	!	'	1	2	3	4	5
25. and nerves." "Great " exclaimed SGT	O	O	O	O	O	O	O	O	O	O
	.	?	"	!	'	1	2	3	4	5
26. Murphy. You men really know	O	O	O	O	O	O	O	O	O	O
	.	?	"	,	'	1	2	3	4	5
27. your stuff. Now lets see	O	O	O	O	O	O	O	O	O	O
what the rest of the										
platoon knows."										

CHECK SHEET
Punctuation
Activity Sheet 1A
End Punctuation continued

Name_____

4.	Be careful	.	?	(!)
5.	If you touch the wound, you could make it dirtier	(.)	?	!
6.	Take a pressure dressing from the kit	(.)	?	!
7.	How do you unwrap it	.	(?)	!
8.	Twist it to break the paper wrapper	(.)	?	!
9.	Don't get it dirty	.	?	(!)
10.	Put the clean side against the wound	(.)	?	!
11.	Which is the clean side	.	(?)	!
12.	It is the side that is white	(.)	?	!
13.	Tie the bandage onto the wound	(.)	?	!
14.	Is he still bleeding	.	(?)	!
15.	He might bleed to death	.	?	(!)
16.	Press on the top of the bandage with your hand	(.)	?	!
17.	Keep pressing for 5-10 minutes	(.)	?	!
18.	You can also tie a thick pad over the bandage	(.)	?	!
19.	What else should I do	.	(?)	!
20.	Elevate the wounded part	(.)	?	!
21.	Use digital pressure	(.)	?	!
22.	Don't ever use that tourniquet unless you really need to	.	?	(!)

CHECK SHEET
Punctuation
Activity Sheet 2A
Commas in Series

Name_____

Commas tell you to pause when you are reading a sentence. They set off words or groups of words and help to make the sentence clear. One way to use commas is to separate words in a series. When you have a list of things in a sentence, you separate the things in the list by using commas.

For instance, if you read this sentence:

The soldiers were issued ammo clips web belts and helmet liners.

Can you tell how many things were issued to the soldiers?

But if you put in commas, the sentence is clear:

The soldiers were issued ammo clips, web belts, and helmet liners.

Instructions: The sentences below are written in short lines. They need commas to set off things in a series. Decide where the commas go. Then count from the left of each line and write down the number of each word that needs a comma after it. Write the numbers on the short line to the right. Be careful! Some of the lines don't need commas. If a line doesn't need a comma, write "none" in the answer blank.

Example: A first aid kit has a case dressing — 7, 8
burn mixture and an envelope cover — 2

1. Four ways to stop bleeding are to use a pressure bandage — 1. 11
use digital pressure elevate the wound and use a — 3, 6
tourniquet. — none

2. You need to unwrap the bandage put it on the wound — 2. 6, 11
wrap it around and tie it in place. — 3

3. You can use a rock log helmet or boots to elevate — 3. 5, 6, 7
the limb. — none

4. Don't elevate a broken arm or leg because it can cause — 4. none
pain increase shock or damage nerves. — 1, 3

5. Some digital pressure points are in the wrist elbow — 5. 8, 9
shoulder upper arm and neck. — 1, 3

6. Don't use a tourniquet unless you already tried direct — 6. none
pressure elevation and digital pressure. — 1, 2

CHECK SHEET
Punctuation
Activity Sheet 3A
Commas: Appositives

Name_____

An appositive is a word or a group of words that tells you more about something in a sentence. It makes you "more positive" of what the sentence is talking about. If you read the words:

SP4 SMITH IS ON LEAVE.

You might not really know who is on leave. There are a lot of SP4 Smiths in the Army. But if you read,

SP4 SMITH, OUR SQUAD LEADER, IS ON LEAVE.

then you are more positive about who the sentence is talking about.

You use commas to set off an appositive. Use a comma between the appositive and the rest of the sentence. If the appositive comes in the middle of the sentence, you use one comma in front of it and another comma after it.

Instructions: Read the sentences below. They are written in short lines. Look for the appositives. When you find one, decide where the commas go. Then count from the beginning of each line and write down the numbers of any words that need commas after them. Be Careful! Some of the sentences might not have an appositive.

Example: This weapon a LAW can be used against tanks. 2, 4

---

1. The LAW a one-man weapon should be checked before you fire it. 1. 2, 6
2. Pull out the pull pin a small pin with a ring. 2. 5
3. Rotate the rear cover a cap over the end downward. 3. 4,9
4. The sling assembly for carrying the launcher will fall free. 4. none
5. Pull sharply backward on the rear sight cover a box over the rear sight to extend the launcher. 5. 8, 3
6. Try to push it back together to check that it is locked. 6. none
7. Put the launcher a tube about 3 feet long on your shoulder. 7. 3, 9
8. Check and clear the backblast area the area behind you. 8. 6
9. Move the safety handle to ARM. 9. none
10. Keep it pointed down range the direction of the enemy while it is on your shoulder. 10. 5, 10

CHECK SHEET
Punctuation
Activity Sheet 4A
Commas: Direct Address

Name_____

When you talk to people in a sentence, you use commas to set off their names. If the name or the title of the person comes in the middle of the sentence, you need to put a comma in front of it and another comma after it.

Instructions: Read the sentences below. When a sentence talks to someone, figure out where the commas should go. Then count from the left and write down the numbers of any words that need commas after them.

Example:

"What time is the formation SGT Johnson?" 5

1. "All right men here's what we're going to do today. 2, 3
2. Rodriguez you go down to supply and get some paint. 1
3. The brushes Collins are in the storeroom. 2, 3
4. Smith and Brubaker you start policing the area. 3
5. It's up to you Washington to mow the grass. 4, 5
6. You two Thomas and Avila help paint the rocks by the path. 2, 5
7. Jones and Simmons you trim the trees. 3
8. The bushes by the north door are you problem Paige. 9
9. Franklin you pull weeds and rake up the grass. 1
10. You come with me to headquarters Tafua and we'll get those new signposts." 6, 7

CHECK SHEET
Punctuation
Activity Sheet 5A
Commas: Introductory Words and
Parenthetical Expressions

Name_____

Commas are used to set off words that don't really relate to the rest of the sentence. These can be introductory words like "now"or "oh" or "yes". They can also be parenthetical expressions or extra thoughts of the writer's, like "in my opinion" or "I think". These words don't really make much difference in the sentence. They are just extra words, so you set them off with commas.

Instructions: Read the lines below. If you find any introductory words or parenthetical expressions, they will need commas. Count from the left of each line and write the number of each word that needs a comma after it. Write the numbers on the answer spaces to the right. Be careful! Some lines don't have an answer space next to them. There aren't any commas missing in these lines.

Example:

Actually the M17A1 mask is a very	1
important piece of equipment. You	
need to check it I think every time	4, 6
you go on maneuvers.	

You have nine seconds I believe	4, 6
to put on your mask. First you	6
hold your breath. No don't drop	4
your helmet. Hold it between your	
knees I think. Your mask carrier	1, 6
the book says should be opened with	3
your left hand. Take the mask out	7
of course with your right hand. Next	2, 7
slide your thumbs up inside the mask	
to open it. After that you put your	5
chin in the chin pocket and pull the	
head harness over your head. Seal	
and clear the mask of course and check	4, 6
for leaks. Yes it's an easy task if	3
you practice.	

CHECK SHEET
Punctuation
Activity Sheet 6A
Commas: Dates and Addresses
continued

Name_____

Instructions: Read the lines below. You will find some places where you need commas. Count from the beginning of the line and write down the number of any word that should have a comma after it. Write the numbers on the answer spaces to the right. Be careful! Some of the lines don't need any commas. If you find a line like that, write "none" on the answer space.

Example:

I moved from 1177 Front Street Jackson Mississippi	6,7,8
to Fort Ord this year. It was on February 5 1982	10,11
that the moving van came. I got here on the next	none
Friday in the afternoon.	none

On June 3 1980 I graduated	3, 4
from high school. I went to	none
school at Pueblo High 1452	4
Diamond Drive Los Alamos New Mexico	2, 4
87544. I decided to go into	none
the Army, so on June 15 I went	none
to the recruiting station. It is	none
at 11 Pajaro Street Santa Fe New Mexico.	4, 6
After I joined the Army, I trained at	none
Fort Riley Kansas. Then on January	2
6 1982 I was transferred to	1, 2
Fort Ord for more training. This year,	none
I will go to Kaiserslautern	5
Germany. I am supposed	none
to arrive there on September 14.	none

CHECK SHEET
Punctuation
Activity Sheet 7A
Commas: Phrases, Clauses, and
Compound Sentences
Continued

Name_____

1. When you are firing the LAW you have to meet the standards. 1. 6
2. You will need to fire at stationary targets and you will need to fire at moving targets. 2. 8
3. Of three rockets fired at stationary targets two must hit the target. 3. 7
4. Of four rockets fired at moving targets two must hit the target. 4. 7
5. There are two sights and both sights flip up. 5. 4
6. The rear sight is a peepsight but the front sight is a clear plastic leaf. 6. 6
7. Even though there are stadia lines on the front sight you should not use them. 7. 10
8. Because they are not accurate they are no longer used. 8. 5
9. When you are sighting on stationary targets place the correct range cross on the center of the target. 9. 7
10. For slow moving targets put the correct lead cross on the center of mass. 10. 4
11. Targets moving at 5 MPH or less are slow and targets moving at more than 5 MPH are fast. 11. 9
12. For slow targets the lead cross is on the center of mass. 12. 3
13. For fast targets the lead cross is on the front edge of the target. 13. 3
14. An oblique target may move faster than 5 MPH but you aim as if it were a slow target. 14. 9

CHECK SHEET
Punctuation
Activity Sheet 8A
Commas: Quotes

Name_____

When you write down exactly what someone has said, that is called a quote. You use a comma after the phrase that introduces a quote. You also use commas if you interrupt the quote with any kind of phrase.

Instructions: Read the sentences below and decide where the commas go. Count from the beginning of each line and write down the number of each word that should have a comma after it. Write your answers in the answer spaces.

Examples:

1. "That" he said "is an M16A1 rifle." 1, 3
2. The soldier asked "Where are the spare ammo clips?" 3

1. The squad leader asked "What are the four lifesaving measures?" 4
2. "Well" said PVT Williams "the first one is to open the airway." 1, 4
3. SP4 Samoa said "That's not quite right." 3
4. "You must also" he said "restore the breathing and heartbeat." 3, 5
5. "Okay" said SGT Perez "now what are the other three steps?" 1, 4
6. PVT Tarpey said "The second one is to stop the bleeding." 3
7. "Right" added PVT Donaldson "and then you prevent shock." 1, 4
8. "The last lifesaving measure" said SP4 Figueroa "is to dress and bandage the wound." 4, 7
9. The squad leader asked him "Why do you do that?" 5
10. Figueroa answered "To avoid infection." 2

CHECK SHEET
Punctuation
Activity Sheet 9A
Quotations - continued

Name_____

Instructions: Read the sentences below. Put the quotation marks where they belong. If you see a capital letter that should be a small letter, cross it out and put a small letter above it. If you see a small letter that should be a capital, cross it out and put the capital letter above it.

Example: "Well," said SGT Johnson, "t/he SQT is next week."

"Okay," said SGT Ames, "y/ou're going to learn how to aim the LAW." He showed us a picture of the front sight, and said, "T/he curved lines are called stadia lines. They're not accurate, so don't use them." When PVT Williams heard SGT Ames say that, he looked closely at the sight. PVT Williams asked, "w/hat are the cross marks on the edges of the sight?" SGT Ames saw where PVT Williams was pointing. He could see the cross marks clearly. "They are lead crosses," said SGT Ames, "and they help you apply lead to a moving target." SGT Ames picked up a piece of chalk so he could write on the blackboard. He said, "F/irst, you figure your range. Then, you put the correct range line on the target." He drew a great big picture of a LAW sight and a big picture of a tank on the board. PVT Ruiz watched him. "Where do we aim?" asked PVT Ruiz. SGT Ames pointed at the picture of the tank. "Usually the center of mass," he said. "On a stationary target," he continued, "y/ou put the range line on the center of mass." PVT Soames raised his hand. "What do you do," asked PVT Soames, "i/f the target is moving?" SGT Ames made two little cross marks on the picture of the tank. "If it is a slow target," said Ames, "y/ou put the lead cross on the center of mass. But if it is a fast target, you put the lead cross on the front edge." SGT Ames put down his chalk. "Are there any other questions?" he asked.

CHECK SHEET
Punctuation
Activity Sheet 10A
Apostrophes: Ownership
Continued

Name_____

1.	SGT Polk platoon went to the field.	's
2,	His men were practicing for their SQT.	nothing
3.	SP4 Riley squad practiced with grenades.	's
4.	The men grenade launchers need to be cleaned.	's
5.	All the hand grenades pins were bent.	'
6.	It is everyone job to keep the equipment clean.	's
7.	Several soldiers grenade launchers misfired.	'
8.	SP4 Riley men did well at throwing the hand grenades.	's
9.	SGT Polk showed them a grenade launcher barrel.	's
10.	Its edge was bent and a shell would not fit into it.	nothing
11.	He warned the men to keep their equipment in good condition.	nothing

CHECK SHEET
Punctuation
Activity Sheet 11A
Apostrophes: Contractions

Name_____

Contractions are two words that have been made into one word. They are easy to learn. Just put an apostrophe wherever you take out letters.

Here are some examples of contractions:

can not = can't
do not = don't
he will = he'll

You can see that the apostrophe takes the place of the letters that have been left out.

Contractions are easy, but you have to be careful with them. For instance, its is the possessive form of it. But it's means it is. Don't get them confused. Here are some words that look the same when they are possessives or contractions:

John's going - John is going (contraction)
John's hat = the hat belonging to John (possessive)

The soldier's on duty - the soldier is on duty (contraction)
The soldier's rifle = the rifle belonging to the soldier (possessive)

Instructions: Read the words below. For the first ten, decide what two words were used to make the contraction. Then write the two words in the answer space. For the second ten, look at the two words. Then make a contraction and write it in the answer space.

Examples: we're — we are
she will — she'll

1.	isn't	is not	11.	we have	we've
2.	he's	he is	12.	Jim is	Jim's
3.	they're	they are	13.	they had	they'd
4.	weren't	were not	14.	do not	don't
5.	let's	let us	15.	he would	he'd
6.	who's	who is	16.	did not	didn't
7.	we'll	we will	17.	it is	it's
8.	can't	can not	18.	I shall	I'll
9.	you're	you are	19.	must not	mustn't
10.	doesn't	does not	20.	would not	wouldn't

CHECK SHEET
Punctuation
Activity Sheet 12A
Abbreviations

Name_____

Abbreviations are words or phrases that are shortened. Sometimes abbreviations are two or three letters long, or even longer. Sometimes they are only one letter.

When an abbreviation is only one letter long it is called an initial. This is because it is the first (or initial) letter of a word. Sometimes, an abbreviation is three or four initials in a row.

You need to put a period after every abbreviation and after every initial. If an abbreviation is two or more initials in a row, you need to put a period after every one.

Instructions: Here is a list of abbreviations and what they stand for. Put in the periods where they belong.

Example: street = st.
senior = sr.
United States Marine Corps = U.S.M.C.

1. advertisement = ad.
2. anonymous = anon.
3. attorney = atty.
4. avenue = ave.
5. Bachelor of Arts = B.A.
6. boulevard = blvd.
7. Cash on Delivery = C.O.D.
8. column = col.
9. dozen = doz.
10. Doctor = Dr.
11. department = dept.
12. et cetera (and so forth) = etc.
13. foot = ft.
14. inch = in.
15. light = lt.
16. Master of Ceremonies = M.C.
17. Medical Doctor = M.D.
18. Military Police = M.P.
19. Mister = Mr.
20. Mistress = Mrs.
21. number = no.
22. ounce = oz.
23. paid = pd.
24. Police Department = P.D.
25. post meridian (afternoon) = p.m.
26. quart = qt.
27. Reverend = Rev.
28. senior = Sr.
29. street = st.
30. Saint = St.
31. United States of America = U.S.A.

CHECK SHEET
Punctuation
Activity Sheet 13A
Punctuation Practice

Name_____

On this page, you can practice what you have learned about punctuation. The kinds of punctuation you need to know in order to work this page are:

End punctuation
Commas
Quotation Marks
Apostrophes
Punctuating Abbreviations

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NOTE: Some lines are not numbered and are not items.

Example:

	?	.	,	"	!	1	2	3	4	5
1. "Why do you think " asked	O	O	●	O	O	O	O	O	●	O
SGT Murphy, "that they are —	?	.	,	"	!	1	2	3	4	5
2. called the four lifesaving methods?	O	O	O	●	O	O	O	O	O	●

	?	.	,	'	"	1	2	3	4	5
1. SGT Murphy said, "On Tuesday	O	O	●	O	O	O	O	O	O	●
May 12, you have your										
2. SQT " He looked right at	? O	. ●	, O	' O	" O	1 ●	2 O	3 O	4 O	5 O
3. me and said, "Lets see	? O	. O	, O	' ●	" O	1 O	2 O	3 O	4 ●	5 O
4. if SP4 Wilsons squad can	? O	. O	, O	' ●	" O	1 O	2 O	3 ●	4 O	5 O
tell us how to control										
5. bleeding." "Well, I started, "my	? O	. O	, O	' O	" ●	1 O	2 ●	3 O	4 O	5 O
6. men studied that sir, so	? O	. O	, ●	' O	" O	1 O	2 O	3 ●	4 O	5 O
7. were ready." PVT Riley said,	? O	! O	. O	' ●	, O	1 ●	2 O	3 O	4 O	5 O
8. The first method is to	. O	" ●	, O	' O	? O	1 ●	2 O	3 O	4 O	5 O
9. apply a pressure dressing." Right,"	. O	" ●	, O	' O	? O	1 O	2 O	3 O	4 O	5 ●
10. I told him "Now, can	. ●	" O	, O	' O	? O	1 O	2 O	3 ●	4 O	5 O
you tell the sergeant what										
11. the second method is PVT	. O	" O	, ●	! O	? O	1 O	2 O	3 O	4 ●	5 O
12. Riley " He said, "It is,	. O	" O	, O	! O	? ●	1 ●	2 O	3 O	4 O	5 O
13. I think to elevate the	. O	" O	, ●	! O	? O	1 O	2 ●	3 O	4 O	5 O

CHECK SHEET
Punctuation
Activity Sheet 13A
Punctuation Practice
Continued

Name_____

	Missing Punctuation Mark					Closest Word Number				
	.	"	,	!	?	1	2	3	4	5
14. wounded part. "Good," I said.	○	●	○	○	○	○	●	○	○	○
15. "What is the third method	○	○	●	○	○	○	○	○	○	●
16. PVT Lee " "Use digital pressure,"	○	○	○	○	●	○	●	○	○	○
17. he said without delay. "Now	○	○	●	○	○	○	○	○	○	●
18. PVT Lee," I asked, can	○	○	●	○	○	○	○	○	○	●
you give me the fourth										
19. method?" He said, "Its to	○	○	○	○	●	○	○	○	●	○
20. use a tourniquet. But, he	○	○	●	○	○	○	○	○	●	○
21. added, "you dont use the	○	○	○	○	●	○	○	●	○	○
tourniquet unless the first three										
22. methods don't work do you?"	○	○	○	●	○	○	○	●	○	○
23. "Right," I said. And why	○	○	●	○	○	○	○	○	●	○
24. not " "Because," said Lee, "the	○	●	○	○	○	●	○	○	○	○
tourniquet can damage blood vessels										
25. and nerves." "Great " exclaimed SGT	○	○	○	●	○	○	○	●	○	○
26. Murphy. You men really know	○	○	●	○	○	○	●	○	○	○
27. your stuff. Now lets see	○	○	○	○	●	○	○	○	●	○
what the rest of the										
platoon knows."										

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Name_____

MODULE PREVIEW

GRAMMAR

I. INSTRUCTIONS: Find the subject or subjects in the following sentences. You are given four choices of possible subjects: A, B, C, or D. On the answer sheet, blacken the circle of the subject(s) of the sentence.

EXAMPLE: PVT Jones finds PVT Smith beside a broken electrical wire.

A	B	C	D
●	O	O	O

A. PVT Jones
B. PVT Smith
C. wire
D. beside

1. Good use of your memory skills can be made when you salute.

A. skills
B. use
C. salute
D. your

2. Neither I nor my buddy has to stand guard tonight.

A. I
B. duty
C. I, buddy
D. neither, nor

3. Who is the owner of that automobile?

A. owner
B. Who
C. automobile
D. is

4. The general likes soldiers who wear their uniform correctly.

A. uniform
B. soldiers
C. general
D. who

5. Which are the tests you need to take?

A. tests
B. Which
C. need
D. you

6. Neither of my friends is able to attend the party.

A. friends
B. party
C. able
D. Neither

II. INSTRUCTIONS: Find the complete verbs in the following sentences. You are given four choices of possible verbs: A, B, C, and D. Blacken the circle of the complete verb of the sentence.

EXAMPLE: Now you have seen the last of the material.

A	B	C	D
O	●	O	O

A. last
B. have seen
C. seen
D. have

7. The entire platoon was ready to go to the field.

A. go
B. was
C. was ready
D. ready

Name_____

II. FINDING VERBS, continued.

8. The days grow longer in the summer.

A. longer C. days
B. grow longer D. grow

9. He slipped and fell into the river.

A. fell C. slipped
B. into D. slipped, fell

10. The lowest terrain between two hilltops is called a saddle.

A. terrain C. is called
B. called D. is

11. Water features such as lakes, rivers, and swamps are shown in blue.

A. features C. swamps
B. are shown D. are

III. INSTRUCTIONS: You are given a choice of two verbs in the following sentences. Decide which verb is correct. Mark the correct circle on the answer sheet.

EXAMPLE: I (A. walk, B. walks) home alone every day.

A	B
●	○

12. The soldiers of Company A (A. have, B. has) loaded their rifles.

13. You always (A. does, B. do) a good job.

14. Both ends (A. are, B. is) the same length.

15. The young recruit (A. has fell, B. has fallen) from the pontoon bridge.

16. You (A. was, B. were) the last one to see him.

17. They (A. has, B. have) gone to the show.

18. PVT Jones has (A. place, B. placed) the selector lever on SAFE.

19. The sergeant (A. orders, B. order) them to do so.

IV. INSTRUCTIONS: You are given a choice of two words for the blank in each sentence. Decide whether A or B completes the sentence correctly. Blacken the correct circle on your answer sheet.

EXAMPLE: You run _____ than I.

A. quicker B. more quickly

A	B
○	●

20. You have _____ control than he does.

A. better B. more better

Name_____

IV. COMPLETE THE SENTENCE, continued.

21. The _____ of the two men carried the extra rucksack.
A. largest B. larger

22. Jones brought those manuals home because _____ looked interesting.
A. it B. they

23. Neither we nor John lost _____ way.
A. our B. his

24. Of the three sergeants, I like Smith _____.
A. best B. better

25. Our vehicle turned the corner _____ than yours.
A. slowlier B. more slowly

V. INSTRUCTIONS: Decide if each statement is written in standard English. If the statement is standard English, fill in answer space YES on your answer sheet. If it is NOT in standard English, fill in answer space NO.

EXAMPLE: The private should have went to formation. (Should have GONE!)	Yes	No
	0	●

26. The salute of the soldiers are very important.

27. Don't your mother write letters to you?

28. Between you and I, you are the nicer.

29. Neither he nor the men is saluting properly.

30. Any recruit that wants to may reenlist.

31. One man covers, one crosses.

32. There was no enemy tanks in the distance.

33. I bought this here coat at the store.

34. Those kind of vehicles don't get stuck in the mud.

35. Is he the drill sergeant which you questioned?

36. Bumper markings on vehicles are helpful.

37. Now you have all four points of the compass.

38. He told his life story to Smith and I.

39. He will try to do more better in the future.

40. You inch your way along, holding the wires with one hand.

Name_____

V. STANDARD ENGLISH, continued

41. She doesn't understand the manual.

42. Looking for streams to find valleys.

43. John and I wanted it for ourselves.

44. He kept the money for hisself.

45. He scored a basket most every time.

46. I was really angry with Smith.

47. Our squad are ready to win.

48. The recruit reacted more courageously than the sergeant when the going got tough.

49. Estimating range is a valuable skill.

50. They went to the parade by theirselves.

51. Diet soda tastes too sweetly for me.

52. Here on the table are the reports you requested.

53. You should of come to the picnic.

54. Put those books on the table.

55. You can't learn an old dog new tricks.

56. It's me you need to see!

57. Divide the ammo among the squad.

58. He fell off of his bunk.

59. The sergeant and she get on each other's nerves.

60. Her brother and her enlisted at the same time.

61. Smith laid his maps on the sergeant's desk.

62. They wouldn't leave me help with the details.

63. The college is having their annual reunion.

64. Everybody has to do his own share of the work.

65. One of the men are sick.

66. The swim team won the ribbon from its competition.

Name_____

V. STANDARD ENGLISH, continued

67. The vehicle blew a tire during the maneuver.

68. They have went home already.

69. Many of the packages was opened.

70. You should have seen those missiles!

71. Few in the crowd raised their hand to volunteer.

72. The sergeant discouraged Smith and I from reenlisting.

73. The speaker told us listeners to pay special attention.

74. He wanted to go nowheres after a hard day in the field.

75. She is a active member of the squad.

76. He said it was alright that she was late.

77. I thought I would burst with excitement.

78. They were playing basketball in back of the barracks.

79. Don't chase any animal who seems frightened!

80. Dogs that bite make me nervous.

81. What have the sergeant done to you?

ANSWER SHEET

Name_____

MODULE PREVIEW
GRAMMAR

I.

	A	B	C	D
1.	0	0	0	0
2.	0	0	0	0
3.	0	0	0	0
4.	0	0	0	0
5.	0	0	0	0
6.	0	0	0	0

II.

	A	B	C	D
7.	0	0	0	0
8.	0	0	0	0
9.	0	0	0	0
10.	0	0	0	0
11.	0	0	0	0

III.

	A	B
12.	0	0
13.	0	0
14.	0	0
15.	0	0
16.	0	0
17.	0	0
18.	0	0
19.	0	0

IV.

	A	B
20.	0	0
21.	0	0
22.	0	0
23.	0	0
24.	0	0
25.	0	0

V.

	Yes	No
26.	0	0
27.	0	0
28.	0	0
29.	0	0
30.	0	0
31.	0	0
32.	0	0
33.	0	0
34.	0	0
35.	0	0
36.	0	0
37.	0	0
38.	0	0
39.	0	0
40.	0	0
41.	0	0
42.	0	0
43.	0	0
44.	0	0

MODULE PREVIEW
GRAMMAR
ANSWER SHEET

Name_____

V. (Continued)

	Yes	No
45.	0	0
46.	0	0
47.	0	0
48.	0	0
49.	0	0
50.	0	0
51.	0	0
52.	0	0
53.	0	0
54.	0	0
55.	0	0
56.	0	0
57.	0	0
58.	0	0
59.	0	0
60.	0	0
61.	0	0
62.	0	0
63.	0	0
64.	0	0
65.	0	0
66.	0	0
67.	0	0
68.	0	0
69.	0	0
70.	0	0
71.	0	0
72.	0	0
73.	0	0
74.	0	0
75.	0	0
76.	0	0
77.	0	0
78.	0	0
79.	0	0
80.	0	0
81.	0	0

MODULE PREVIEW
GRAMMAR

• ANSWER KEY/DIAGNOSTIC

						IF WRONG, ASSIGN:
I.	1.	A 0	B ●	C 0	D 0	1,5,6,36
	2.	A 0	B 0	C ●	D 0	1,5,6,36
	3.	A ●	B 0	C 0	D 0	1,5,28,36
	4.	A 0	B 0	C ●	D 0	1,5,28,36
	5.	A ●	B 0	C 0	D 0	28,36
	6.	A 0	B 0	C 0	D ●	5,19,36
II.	7.	A 0	B ●	C 0	D 0	2,3,8,36
	8.	A 0	B 0	C 0	D ●	2,3,8,36
	9.	A 0	B 0	C 0	D ●	1,2,36
	10.	A 0	B 0	C ●	D 0	7,9,11,36
	11.	A 0	B ●	C 0	D 0	7,9,12,36
III.	12.	A ●	B 0			7,9,10,11,36
	13.	A 0	B ●			4,9,36
	14.	A ●	B 0			3,4,36
	15.	A 0	B ●			7,9,12,13,36
	16.	A 0	B ●			4,9,13,36
	17.	A 0	B ●			7,12,13,36
	18.	A 0	B ●			7,10,11,36
	19.	A ●	B 0			4,8,9,36
IV.	20.	A ●	B 0			29,36
	21.	A 0	B ●			29,36
	22.	A 0	B ●			17,21,36
	23.	A 0	B ●			17,21,36
	24.	A ●	B 0			31,36
	25.	A 0	B ●			31,36

		Yes	No	
V.	26.	0	●	5,36
	27.	0	●	5,6,15,36
	28.	0	●	25,29,36
	29.	0	●	6,36
	30.	●	0	27,36
	31.	●	0	35,36
	32.	0	●	16,36
	33.	0	●	30,36
	34.	0	●	30,36
	35.	0	●	27,36
	36.	●	0	5,36
	37.	●	0	2,36
	38.	0	●	25,36
	39.	0	●	31,36
	40.	●	0	35,36
	41.	●	0	5,6,15,36
	42.	0	●	34,36
	43.	●	0	26,36
	44.	0	●	26,36

V. (Continued)

	Yes	No	IF WRONG, ASSIGN:
45.	0	●	32,36
46.	●	0	32,36
47.	0	●	6,36
48.	●	0	31,36
49.	●	0	34,36
50.	0	●	26,36
51.	0	●	32,36
52.	●	0	16,36
53.	0	●	7,33,36
54.	●	0	30,36
55.	0	●	14,36
56.	●	0	23,24,36
57.	●	0	33,36
58.	0	●	33,36
59.	●	0	22,23,24,36
60.	0	●	22,23,24,36
61.	●	0	14,36
62.	0	●	14,36
63.	0	●	20,36
64.	●	0	18,19,20,36,21
65.	0	●	18,19,20,36,21
66.	●	0	19,20,36
67.	●	0	12,36
68.	0	●	12,36
69.	0	●	18,19,20,36,21
70.	●	0	12,36
71.	●	0	18,19,20,36,21
72.	0	●	22,23,24,36
73.	●	0	22,23,24,36
74.	0	●	36
75.	0	●	36
76.	0	●	36
77.	●	0	12,36
78.	0	●	36
79.	0	●	27,28,36
80.	●	0	27,28,36
81.	0	●	27,28,36

Name _____

MODULE RECORD SHEET

GRAMMAR

OBJECTIVE: Use correct English grammar. Recognize when a sentence is or is not written in standard English.

SAMPLE TEST ITEMS:

1. Which is the subject in this sentence?
"When we came back from maneuvers, Tom found the sergeant waiting for him."

(a) we (c) Tom
(b) sergeant (d) maneuvers

a	b	c	d
o	o	●	o

2. Is this sentence written in standard English:

"There wasn't no reason to stay."

Yes	No
o	●

INTRODUCTION TO GRAMMAR:

Grammar is the correct usage of English. If you do not understand the rules of grammar, you will probably make mistakes when you try to speak or write standard English.

Standard English is the kind of English that is taught in schools. It is always correct. In the USA, many people speak dialects of English. These dialects are special ways of talking, and they don't follow the rules of standard English. Even if you speak a dialect of English at home and with your friends, you need to learn to speak standard English. You will need it in your job and in talking with people you don't know. People who speak a dialect of English often can't understand other people who speak a different dialect. But if you use the rules of good grammar and speak standard English, you can be sure that others will understand what you are saying. Even if you don't use standard English all the time, practice it every day!

These activity sheets will teach you the rules of good grammar for standard English. Work through all the activity sheets that have been circled. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for good grammar, ask to take the Grammar Review.

ACTIVITY SHEETS (Do those that are circled)

1.	Subjects: Number	1A	1B
2.	Action Verbs	2A	2B
3.	Linking Verbs	3A	3B
4.	Verbs: Number	4A	4B
5.	Finding a Hidden Subject	5A	5B
6.	Agreement: Special Subjects	6A	6B
7.	Helping Verbs	7A	7B
8.	Action and Linking Verbs	8A	8B
9.	Verbs: Person	9A	9B
10.	Verbs: Tense	10A	10B
11.	Regular Past Participle	11A	11B
12.	Irregular Past and Past Participles	12A	12B
13.	Verbs: Changing from Past Tense to Past Participle	13A	13B
14.	Confusing Verbs	14A	14B
15.	Subject and Verb Agreement	15A	15B
16.	Agreement: "There" and "Here"	16A	16B
17.	Pronouns: Person, Number, Antecedent	17A	17B
18.	Verb Agreement with Indefinite Pronouns	18A	18B
19.	Indefinite Pronouns as Antecedents	19A	19B
20.	Collective Nouns as Antecedents	20A	20B
21.	Practice on Pronouns Agreeing with Antecedents	21A	21B
22.	Pronouns Used as Subjects	22A	22B
23.	Pronouns Used as Objects	23A	23B
24.	Practice on Subject and Object Pronouns	24A	24B
25.	Pronouns After Prepositions	25A	25B
26.	Possessive Pronouns	26A	26B
27.	Indefinite Pronouns: WHO, THAT, WHICH	27A	27B
28.	Pronouns: Agreement	28A	28B
29.	Using Adjectives for Comparison	29A	29B
30.	Adjectives: This/That These/Those	30A	30B
31.	Using Adverbs for Comparison	31A	31B
32.	Confusing Adverbs and Adjectives	32A	32B
33.	Using Prepositions Correctly	33A	33B
34.	Blunders: Fragments	34A	34B
35.	Blunders: Run-Ons	35A	35B
36.	Good Usage of English	36A	36B

Name _____

MODULE REVIEW

GRAMMAR

I. Instructions: Find the subject or subjects in the following sentences. You are given four choices of possible subjects: A, B, C, or D. On the answer sheet, blacken the circle of the subject(s) of the sentence.

Example: My elbow knocked the water pitcher to the floor.

A	B	C	D
O	O	●	O

A. water
B. knocked
C. elbow
D. pitcher

1. Neither of the soldiers could remember the WORM formula.

A. soldiers
B. Neither
C. WORM
D. formula

2. Who were the last people to see the parachutist?

A. Who
B. people
C. were
D. parachutist

3. Which are the reports you need?

A. reports
B. Which
C. you
D. are

4. Either he or his brother received an inheritance.

A. Either
B. he
C. he, brother
D. inheritance

5. Many skills of each category are found to overlap.

A. category
B. overlap
C. Many
D. skills

6. The IG team asks questions which cannot be easily answered.

A. questions
B. which
C. team
D. IG

Name _____

II. Instructions: Find the complete verbs in the following sentences. You are given four choices of possible verbs: A, B, C, and D. Blacken the circle of the complete verb of the sentence.

Example: The husky soldier could hardly waddle through the door.

A	B	C	D
○	○	○	●

A. hardly
B. could hardly
C. could hardly waddle
D. could waddle

7. The rugged terrain is shown as jagged lines.

A. rugged
B. is shown
C. is
D. shown

8. The highest point of elevation is usually a good place to position yourself.

A. is
B. is usually
C. highest
D. place

9. He gathered the twigs and combined them to camouflage his position.

A. combined
B. gathered
C. gathered, combined
D. gathered, combined, camouflage

10. The greedy man was happy to take the money.

A. greedy
B. was happy
C. was
D. take

11. The banana tastes good with peanut butter on it.

A. tastes
B. on
C. tastes good
D. banana

III. Instructions: You are given a choice of two verbs in the following sentences. Decide which verb is correct. Mark the correct circle on the answer sheet.

Example: He (A. tells, B. tell) the truth all the time.

A	B
●	○

12. The rewards of good sportsmanship (A. is, B. are) many.

Name _____

13. You never (A. seem, B. seems) to tire on a long march.

14. Both soldiers (A. have, B. has) the same MOS.

15. He said you (A. was, B. were) the only person he could trust.

16. They (A. has, B. have) requested a change of orders.

17. The parachutist (A. had fallen, B. had fell) too far before his chute opened.

18. PVT Jones has (A. placed, B. place) the duty roster on the bulletin board.

19. The first sergeant (A. want, B. wants) the company to win the championship.

IV. Instructions: You are given a choice of two words for the blank in each sentence. Decide whether A or B completes the sentence correctly. Blacken the correct circle on your answer sheet.

Example: You swim _____ than I.	A	B
A. faster B. more faster	●	0

20. You have a _____ chance to win the price than he.
A. more better B. better

21. The _____ of the two soldiers loaded the extra provisions.
A. stronger B. strongest

22. Of the three commanders, I like Jones _____.
A. best B. better

23. My vehicle rounded the bend _____ than yours.
A. more slowly B. slowlier

24. Neither he nor Smith could find _____ fatigue cap.
A. their B. his

25. We asked those questions because _____ seemed important.
A. it B. they

 Name _____

V. Instructions. Decide if each statement is written in standard English. If the statement is standard English, fill in answer space YES on your answer sheet. If it is NOT in standard English, fill in answer space NO.

Example: The old man should have went home earlier. (SHOULD HAVE GONE!)	YES	NO
	0	●

26. The attitude of the soldiers are very important.

27. Don't your friend realize ~~h~~ow lucky he is?

28. Between you and she, you are the smarter.

29. Neither she nor the men are marching properly.

30. Any soldier that requests it may get a stateside swap.

31. You must cross open areas time is critical.

32. There was only three enemy tanks sighted in the distance.

33. I received this here recommendation from the first sergeant.

34. Those kind of plans usually cause trouble.

35. Is he the medic which you said behaved bravely?

36. Markings on vehicle bumpers are helpful in identification.

37. Now you have the information you need to zero your weapon.

38. Smith did not hesitate to offer his chair to Jones or I.

39. They will try to march more better in the future.

40. Cradle the rifle in your arms, keeping its muzzle off the ground.

41. By alternately advancing your right elbow and left knee.

42. He doesn't understand the court martial proceedings.

43. Smith and Jones whittled the airplane by themselves.

44. He kept the fanciest guitar for hisself.

45. She answered most every question with a negative statement.

46. I was really full after the big dinner.

47. Our company are the leader in the Commanders' Cup.

48. The young recruit reacted more courageously than any other soldier in the squad.

Name _____

49. Estimating range is a skill everyone needs.

50. They decided to make all the arrangements by theirselves.

51. That candy tastes too sweetly for us.

52. Here on the desk is the manual you wanted.

53. Smith should of been on time.

54. Put those documents in the safe.

55. He tried to learn me how to tie a slip-knot.

56. It's me who called you last night.

57. Split the proceeds among the seven charities.

58. The disabled vehicle fell off of the ridge.

59. The captain and he were always at each other's throats.

60. His brother and him are closer than ever.

61. Jones laid out his information for everyone to see.

62. The sarge wouldn't leave me help with the action.

63. The army is having their annual birthday.

64. Everyone has to repeat his social security number.

65. One of the vehicles are broken.

66. The rifle team beat its closest competition in the final.

67. The deuce-and-a-half blowed a tire.

68. The CO already have went home.

69. Many of the germs in the hospital was killed with disinfectant.

70. You should have seen those parachutes fill the sky!

71. Few in the neighborhood raised their flags on the holiday.

72. The colonel discouraged the sergeant and I from transferring.

73. The knight in shining armor told us to believe what we saw.

74. They had nowheres near the money they needed to last the month.

75. He is a arithmetic whiz!

Name _____

76. It is alright that the string on the banjo finally broke.

77. She almost burst with joy!

78. There was a loud noise in back of the building.

79. Any animal who seems frightened may attack you.

80. Cats that scratch scare me!

81. What have the teacher done with your test?

ANSWER SHEET
Module Review
Grammar

Name _____

		A	B	C	D
I.	1.	0	0	0	0
	2.	0	0	0	0
	3.	0	0	0	0
	4.	0	0	0	0
	5.	0	0	0	0
	6.	0	0	0	0
II.	7.	0	0	0	0
	8.	0	0	0	0
	9.	0	0	0	0
	10.	0	0	0	0
	11.	0	0	0	0
III.	12.	0	0		
	13.	0	0		
	14.	0	0		
	15.	0	0		
	16.	0	0		
	17.	0	0		
	18.	0	0		
	19.	0	0		
IV.	20.	0	0		
	21.	0	0		
	22.	0	0		
	23.	0	0		
	24.	0	0		
	25.	0	0		

V.		YES	NO
	26.	0	0
	27.	0	0
	28.	0	0
	29.	0	0
	30.	0	0
	31.	0	0
	32.	0	0
	33.	0	0
	34.	0	0
	35.	0	0
	36.	0	0
	37.	0	0
	38.	0	0
	39.	0	0
	40.	0	0
	41.	0	0
	42.	0	0
	43.	0	0
	44.	0	0
	45.	0	0
	46.	0	0
	47.	0	0
	48.	0	0
	49.	0	0
	50.	0	0
	51.	0	0
	52.	0	0
	53.	0	0
	54.	0	0
	55.	0	0
	56.	0	0
	57.	0	0
	58.	0	0
	59.	0	0
	60.	0	0

		YES	NO
	61.	0	0
	62.	0	0
	63.	0	0
	64.	0	0
	65.	0	0
	66.	0	0
	67.	0	0
	68.	0	0
	69.	0	0
	70.	0	0
	71.	0	0
	72.	0	0
	73.	0	0
	74.	0	0
	75.	0	0
	76.	0	0
	77.	0	0
	78.	0	0
	79.	0	0
	80.	0	0
	81.	0	0

GRAMMAR
MODULE REVIEW
ANSWER KEY/DIAGNOSTIC

I.		A	B	C	D	IF WRONG, ASSIGN:
	1.	0	●	0	0	5,19,36
	2.	0	●	0	0	1,5,28,36
	3.	●	0	0	0	28,36
	4.	0	0	●	0	1,5,6,36
	5.	0	0	0	●	1,5,6,36
	6.	0	0	●	0	1,5,28,36
II.	7.	0	●	0	0	2,3,8,36
	8.	●	0	0	0	7,9,11,36
	9.	0	0	●	0	1,2,36
	10.	0	0	●	0	2,3,8,36
	11.	●	0	0	0	7,9,12,36

II.				
	12.	0	●	7,9,10,11,36
	13.	●	0	29,36
	14.	●	0	3,4,36
	15.	0	●	29,36
	16.	0	●	7,12,13,36
	17.	●	0	7,9,12,13,36
	18.	●	0	7,10,11,36
	19.	0	●	4,8,9,36

IV.				
	20.	0	●	29,36
	21.	●	0	29,36
	22.	●	0	31,36
	23.	●	0	29,36
	24.	0	●	29,36
	25.	0	●	17,21,36

V.		YES	NO	IF WRONG, ASSIGN:
	26.	0	●	5,36
	27.	0	●	5,6,15,36
	28.	0	●	25,29,36
	29.	●	0	6,36
	30.	●	0	27,36
	31.	0	●	35,36
	32.	0	●	16,36
	33.	0	●	30,36
	34.	0	●	30,36
	35.	0	●	27,36
	36.	●	0	5,36
	37.	●	0	2,36
	38.	0	●	25,36
	39.	0	●	31,36
	40.	●	0	35,36
	41.	0	●	34,36
	42.	●	0	5,6,15,36
	43.	●	0	26,36
	44.	0	●	26,36
	45.	0	●	32,36
	46.	●	0	32,36
	47.	0	●	6,36
	48.	●	0	31,36
	49.	●	0	34,36
	50.	0	●	26,36
	51.	0	●	32,36
	52.	●	0	16,36
	53.	0	●	7,33,36
	54.	●	0	30,36
	55.	0	●	14,36

		YES	NO	IF WRONG, ASSIGN:
	56.	0	●	23,24,36
	57.	0	●	33,36
	58.	0	●	33,36
	59.	●	0	22,23,24,36
	60.	0	●	22,23,24,36
	61.	●	0	14,36
	62.	0	●	14,36
	63.	0	●	20,36
	64.	●	0	18,19,20,36,17,21
	65.	0	●	18,19,20,36,17,21
	66.	●	0	19,20,36,17,21
	67.	0	●	12,36
	68.	0	●	12,36
	69.	0	●	18,19,20,36
	70.	●	0	12,36
	71.	●	0	18,19,20,36
	72.	0	●	22,23,24,36
	73.	●	0	22,23,24,36
	74.	0	●	36
	75.	0	●	36
	76.	0	●	36
	77.	●	0	12,36
	78.	0	●	36
	79.	0	●	27,28,36
	80.	●	0	27,28,36
	81.	0	●	27,28,36

Grammar
Activity Sheet 1A
Subjects: Number

Name _____

Every sentence must have at least one SUBJECT. The subject is the "who" or "what" word. It tells you "who" or "what" does something. The subject usually comes at the beginning of the sentence before the verb.

EXAMPLE: 1. You treat a chemical burn differently than an electrical burn.

"Who" treats a burn? "You" do. You is the subject of the sentence.

Subjects have NUMBER. They may be SINGULAR, meaning only one of something. They may be PLURAL, meaning more than one of something. SUBJECTS THAT END IN "S" ARE USUALLY PLURAL. BUT NOT ALL PLURAL SUBJECTS END IN "S".

EXAMPLE: 1. A burn should be treated at once. (one burn)

2. Burns should be treated at once. (more than one burn)

3. They should be treated at once. (more than one)

INSTRUCTIONS: In the following sentences, decide which word is the subject of the sentence. Underline that word with one line. Then decide if that subject is singular or plural. Blacken the correct space.

	Singular	Plural
EXAMPLES: 1. An electrical wire can cause burns.	■	□
2. Electrical wires can cause burns.	□	■
1. PVT Jones finds SGT Smith beside a broken electrical wire.	□	□
2. SGT Smith has been shocked by the electric current.	□	□
3. A private notifies the medics.	□	□
4. Several soldiers hurry over.	□	□
5. They pull SGT Smith away from the wire.	□	□

Grammar
Activity Sheet 1A (Continued)
Subjects: Number

Name _____

	Singular	Plural
6. One soldier tears the sleeve of the sergeant's fatigues.	☐	☐
7. He uncovers the burn.	☐	☐
8. A cloth sticks to the burn.	☐	☐
9. The men do NOT remove that piece of cloth.	☐	☐
10. PVT Jones tells them not to clean the burn.	☐	☐
11. "We must not put medicine on it!"	☐	☐
12. He loosens SGT Smith's other clothing.	☐	☐
13. The other soldiers place SGT Smith on his back.	☐	☐
14. They elevate his feet 12 to 18 inches to prevent shock.	☐	☐
15. Everyone stays calm and sensible.	☐	☐
16. "I don't have a first aid packet."	☐	☐
17. Not one is found.	☐	☐
18. Jones uses the next best thing.	☐	☐
19. Two soldiers have clean handkerchiefs.	☐	☐
20. He takes those and puts them on the burn.	☐	☐
21. Minutes pass.	☐	☐

Grammar
Activity Sheet 1A (Continued)
Subjects: Number

Name _____

	Singular	Plural
22. Finally, the medics arrive and take over.	☐	☐
23. PVT Jones used his head in an emergency situation.	☐	☐

Grammar
Activity Sheet 2A
Action Verbs

Name _____

Every sentence must have at least one VERB. One kind of verb is the ACTION verb. It tells you what someone or something is doing or has done.

Example: 1. SGT Smith runs with his platoon.

"Runs" is a "do" word, an action word. Action verbs tell about two kinds of action: body and mind. An action of the body includes PHYSICAL "doings:"

Example: I eat.
I sleep.
I work.

An action of the mind includes MENTAL "doings:"

Example: I think.
I plan.
I hope.
I dream.
I have a goal.

A sentence may have more than one main verb.

Example: He slipped and fell into the river.

Instructions: Underline the ACTION verbs in the following sentences with two lines. The subject is already underlined for you with one line.

Example: You spot smoke, mist, vapor or drops.

---

1. You determine direction with the Shadow Tip method.

2. You place a stick on the ground vertically.

3. The sun casts a shadow.

4. You mark the tip of the shadow with a stone or a twig.

5. That marks the West line.

Grammar
Activity Sheet 2A
Action Verbs

Name _____

6. In 10 to 15 minutes, the shadow moves.

7. The shadow moves from West to East.

8. You mark the second shadow, the East line.

9. Now you draw a straight line through the two marks.

10. That line shows the East-West line.

11. You make a North-South line at a right angle to the East-West line at any point.

12. Now you have all four points of the compass.

Grammar
Activity Sheet 3A
Linking Verbs

Name _____

In the M60 machine gun, the 7.62 mm cartridges are linked together. There is a kind of verb which links parts of sentences together in the same way. The LINKING verb connects the subject with another word that tells you something about the subject. That word is called a DESCRIPTIVE WORD because it describes the subject.

Example: 1. The platoon (subject) was (linking verb) the winner (descriptive word) of the competition.

2. The winners (subject) seemed (linking verb) happy (descriptive word).

The descriptive word answers the question, Who? What? or How?

(The platoon was what? The winner.
The winners seemed how? Happy.)

The most common linking verbs are:

be (am, is, are, was, were),
become, appear, seem, grow, remain (verbs of being)
look, smell, feel, taste, sound (verbs of the senses)

Instructions: In the following sentences the subject is underlined with one line. The descriptive word is circled. You should underline the LINKING VERB with two lines.

Example: 1. Pvt Jones looked (handsome) in his uniform.

1. The Red Cross is a (help) to the soldier.

2. The entire platoon was (ready) to go to the field.

3. Pvt. Jones of Company A remained (unconscious) after the fall.

4. They felt (good) about weekend pass.

5. Pvt. Smith's fatigues look (wrinkled.)

Grammar
Activity Sheet 3A
Linking Verbs

Name _____

Now, YOU circle the descriptive word. Underline the linking verb with two lines. The subject is underlined.

6. The Christmas dinner at the mess hall tasted delicious.

7. His television sounded loud to me.

8. The men were angry about their late pay checks.

9. I am the only person at home.

10. Yesterday Jones became the winner of the lottery.

11. We remain friends through the years.

12. The days grow longer in the summer.

13. That is my friend at the door.

14. The orderly room appeared smoky after the meeting.

15. You seem too tired to work today.

Grammar
Activity Sheet 4A
Verbs: Number

Name _____

Every sentence must have at least one VERB. A verb can be either an ACTION word, such a run, or a LINKING verb, such as is.

All verbs have NUMBER. A verb can be singular (one) or plural (more than one). A VERB ENDING IN "S" IS USUALLY SINGULAR.

Examples: 1. The private puts on his protective clothing.

2. His sergeant orders him to do so.

"Puts" and "orders" are both singular. Notice that they both end in "s."

IF A VERB DOES NOT END IN "S," IT IS USUALLY PLURAL.

Example: 1. The privates put on their protective clothing.

"Put" is plural.

THE WORDS "YOU" AND "I" ALWAYS TAKE A PLURAL VERB.

Example: 1. You put on your protective clothing.

"Put" is plural.

Instructions: In the following sentences, find the verb. Underline it with two lines. Then decide if it is a singular verb or a plural verb. Blacken the correct space at the end of each sentence.

	Singular	Plural
Examples: 1. The privates put on their protective clothing	☐	■
2. The sergeant orders them to do so.	■	☐

	Singular	Plural
1. Protective clothing includes overgarment, trousers and shirt, gloves, and overboots.	☐	☐
2. Soldiers put on protective clothing for an NBC attack.	☐	☐
3. You blouse your trousers inside your boots.	☐	☐
4. PVT Jones pulls on his overboots.	☐	☐
5. He threads the lace through the front eyelet.	☐	☐
6. Both ends are the same length.	☐	☐

Grammar
Activity Sheet 4A
Verbs: Number

Name _____

	Singular	Plural
7. He ties a single hitch.	☐	☐
8. Laces go through the side eyelets from inside to outside.	☐	☐
9. You pull tight.	☐	☐
10. Use a single hitch!	☐	☐
11. Each lace goes through the rear eyelet in the same way.	☐	☐
12. The ends come back through the side eyelet.	☐	☐
13. Across the instep, a single hitch ties the laces.	☐	☐
14. Around the upper part of his overboot, PVT Jones wraps the laces.	☐	☐
15. All of the soldiers zip down each leg of the overgarment trousers.	☐	☐
16. They blouse the overgarment trousers over the overboot.	☐	☐
17. Soldiers also have shirts and gloves for protection.	☐	☐

Grammar
Activity Sheet 5A
Finding a Hidden Subject

Name _____

When a group of words stands between the subject and the verb, you must look carefully to find the subject.

(subject) (verb)
Example: 1. The soldiers of the engineer battalion are last in the convoy.

(subject) (verb)
2. The soldier who does best on the SQT receives a weekend pass.

These groups of words that get in the way and hide the subject can be either prepositional phrases (as in Example 1) or helping clauses (as in Example 2). They both tell about the subject. You must get rid of the group of words to find the subject. Circle it to throw it out of the sentence!

Instructions: In the following sentences, the verbs are underlined with two lines. Find the subject of the sentence. (Remember: It is the "who" or "what" word!) Underline it with one line. Circle the group of words that comes between the subject and the verb.

(subject) (verb)
Example: Good use (of your memory skills) can be made when you salute.

"Use" is the subject. The group of words circled makes it hard to find the subject. You circle them to get them out of the way!

---

1. The salute of the soldier is very important.

2. The letters of "SALUTE" can be used to remember information to report.

3. The six letters in the word offer a sensible way to recall points of interest in reporting and collecting information.

4. The "S" in the word stands for SIZE of the object you saw.

5. The number of personnel can mean SIZE also.

6. ACTIVITY of the enemy means what the enemy was doing.

Grammar
Activity Sheet 5A
Finding a Hidden Subject

Name _____

7. Grid coordinates from a known location are LOCATION.

8. The UNIT of the foe should be described.

9. Any description of patches or clothing is valuable information.

10. Bumper markings on vehicles are helpful.

11. The TIME of the activity should be reported.

12. The EQUIPMENT associated with the activity furnishes helpful information.

13. The soldier who is alert will spot the enemy quickly.

14. Each item of interest expressed by the letters of the key word "SALUTE" relates necessary data.

Grammar
Activity Sheet 6A
Agreement: Special Subjects

Name _____

Here are some rules about SUBJECTS that you will have to learn.

1. A SENTENCE MAY HAVE MORE THAN ONE SUBJECT.

   Example: The staff sergeant and the private are late for formation.

   "Sergeant" is singular. "Private" is singular. "Are" is a plural verb.

   TWO OR MORE SINGULAR SUBJECTS JOINED BY "AND" MAKE A PLURAL SUBJECT. YOU NEED A PLURAL VERB!

2. IF TWO OR MORE SINGULAR SUBJECTS ARE JOINED BY "OR" OR "NOR," USE A SINGULAR VERB.

   Example: Neither I nor my buddy has to stand duty tonight.

   The subjects "I" and "buddy" are connected by "nor." "Has" is a singular verb.

3. PLURAL SUBJECTS JOINED BY "OR" OR "NOR" NEED A PLURAL VERB.

   Example: Either the men or the women are the winners.

   "Men" is plural. "Women" is plural. "Are" is plural.

4. IF TWO SUBJECTS JOINED BY "OR" OR "NOR" ARE NOT THE SAME PERSON OR NUMBER, THE VERB MUST AGREE WITH THE SUBJECT CLOSER TO IT!

   Example: Neither Jones nor the men are saluting properly.

   "Jones" is singular. "Men" is plural. The verb "are saluting" is plural to agree with "men."

5. SOME SUBJECTS NEED SPECIAL MENTION. THEY ARE SINGULAR IN MEANING BUT THEY END IN "S." THEY NEED A SINGULAR VERB.

mathematics	measles	series
news	politics	the United States

   Example: Mathematics is my favorite subject.

   "Mathematics" is singular. "Is" is singular.

6. THERE ARE WORDS THAT SUGGEST MORE THAN ONE PERSON, BUT THEY ARE SINGULAR.

group	company	tribe
team	government	college
class	school	mob
		flock

Grammar
Activity Sheet 6A
Agreement: Special Subjects

Name _____

They need a singular verb.

Example: Our basketball team is winning the tournament.

"Team" is singular; "is winning" is singular. Subject and verb agree. That's good English!

Instructions. In the following sentences underline the subjects with one line. Look at the rules in this lesson and decide if the subject needs a singular verb or a plural verb. Mark the correct box. Then underline the correct verb with two lines.

	Singular	Plural
Example: Neither he nor she (speaks, speak) Spanish.	■	☐
1. Either the soldiers or the vehicles (makes, make) the position known.	☐	☐
2. Neither the troops nor the truck (leaves, leave) a trail.	☐	☐
3. You and your buddy (has, have) not disturbed the terrain around your position.	☐	☐
4. Either the Soviet Union or the United States (is, are) ahead in the arms race.	☐	☐
5. A group of my friends (is, are) waiting outside.	☐	☐
6. Politics (was, were) the most exciting profession he spoke about.	☐	☐
7. Neither the men nor the company (receives, receive) a commendation.	☐	☐
8. I hope either Mary or you (has, have) the correct change.	☐	☐
9. The Army and the Air Force (offers, offer) many job opportunities.	☐	☐
10. Neither my friends nor I (attends, attend) night school.	☐	☐

Grammar
Activity Sheet 7A
Helping Verbs

Name _____

The VERB in a sentence may be one word.

Example: SGT Smith fired the M16 yesterday.

Or the VERB may be two or more words--a main verb and helping verbs.

Example: SGT Smith has fired the M16 before.

"Fired" is the main verb. "Has" is the helping verb. "Has fired" is the VERB PHRASE.

Helping verbs help the main verb tell what the subject is doing. Often the helping verb is separated from the main verb by another word. Don't let this confuse you!

Example: Are you firing the gun?

"Are" is the helping verb. "Firing" is the main verb. The helpers come first; the main verb comes last.

There are two verbs that are used more than any others. They are also the most often used helping verbs.

To BE

I am firing	we are firing	I was firing	We were firing
You are firing	You are firing	You were firing	You were firing
He She is firing It	They are firing	He She was firing It	They were firing

To HAVE

I have fired	We have fired	I had fired	We had fired
You have fired	You have fired	You had fired	You had fired
He She has fired It	They have fired	He She had fired It	They had fired

Other helping verbs are:

He does fire	It could fire	It must fire
They do fire	I can fire	She will fire
You did fire	He may fire	

Grammar
Activity Sheet 7A
Helping Verbs

Name _____

IMPORTANT! The helping verb has NUMBER. It may be either SINGULAR or PLURAL. The NUMBER of the verb phrase depends on the NUMBER of the helping verb.

Instructions: The main verb is underlined with two lines. Underline the helping verb with two lines.

(helping verb) (main verb)

Example: He could have fired his weapon for record.

---

1. You must place the selector on safe when clearing your M16A1 rifle.
2. The weapon must be cocked for the selector to be pointed toward safe.
3. The charging handle is pulled rearward.
4. Then the bottom of the bolt catch is pressed.
5. The bolt will then move forward.
6. The charging handle will be returned to forward.
7. Was it placed on safe?
8. To be sure these areas contain no ammo, you should eyeball the receiver and chamber.
9. The selector lever has been pointing toward safe.
10. Each soldier had allowed the bolt to go forward by pressing the upper part of the bolt catch.

Grammar
Activity Sheet 8A
Action and Linking Verbs

Name _____

An ACTION verb tells what the subject does. A LINKING verb connects the subject with another word that tells us more about the subject.

Instructions: In the following sentences underline the complete verb phrase with two lines. Decide if it is an ACTION verb or a LINKING verb. Blacken the correct box at the end of the sentence. Remember your list of linking verbs from Activity Sheet 3A.

	Action	Linking
Example: PVT Jones has requested leave.	■	
SGT Smith is on leave.		■

	Action	Linking
1. You must recognize the signs of heat cramps and heat exhaustion.		
2. Signs of heat exhaustion include weakness, dizziness, coolness and moistness of skin, and headache.		
3. Heat stroke includes an upset stomach, hot and dry skin, and a feeling of confusion.		
4. A soldier has an unknown heat injury.		
5. He is conscious.		
6. The sick soldier must drink ½ canteen of water.		
7. He then should swallow two salt tablets.		
8. You do NOT give salt tablets to a soldier who is sick to his stomach.		
9. Is he sick to his stomach?		
10. If not, he drinks the rest of the water in the canteen.		
11. Movement to a shady area will come next.		
12. You loosen any tight clothing.		

Grammar
Activity Sheet 8A
Action and Linking Verbs

Name _____

	Action	Linking
13. Someone raises his feet 12 to 18 inches.	||	||
14. Medical help is necessary.	||	||
15. Any heat problem can be serious.	||	||
16. You take any heat problem seriously.	||	||

Grammar
Activity Sheet 9A
Verbs: Person

Name _____

A subject and a present tense verb agree if you use the correct form of the verb with your subject. The subject and verb must agree in PERSON and in TENSE. This activity sheet will help you understand PERSON as it relates to verbs.

There are three persons: first, second, and third. The FIRST person means the speaker (I, we). The SECOND person means the person spoken to (you). The THIRD person means the person, place, or thing being spoken about (he, she, it, they). Each person has a SINGULAR and a PLURAL.

	SINGULAR		PLURAL	
	subject	verb	subject	verb
1st person	I	walk	we	walk
2nd person	you	walk	you	walk
3rd person	he, she, it	walk (s)	they	walk

THE ONLY TIME YOU CAN ADD AN -S or -ES TO A VERB IN THE PRESENT TENSE IS WHEN THE SUBJECT IS A THIRD PERSON SINGULAR (he, she, it).

Example:

If the subject is	The verb in the present tense must take an
he, she, it, John, Susan, the girl, the table	S (or -es)

You must be able to choose the correct form of a verb. To do this you first decide upon the PERSON and the NUMBER of the subject. The verb will have the same PERSON and NUMBER as the subject.

Instructions: In the following sentences, you must do three things. (1) Underline the subject with one line. (2) Decide if it is 1st, 2nd, or 3rd person. Blacken the correct box on the answer sheet. (3) Decide if it is SINGULAR or PLURAL. Blacken the correct box. NOTE: "You" is ALWAYS PLURAL!

Examples:

	Person 1	Person 2	Person 3	Singular	Plural
1. I dislike this kind of weather.	■			■	
2. The men in the platoon agree to participate.			■		■
3. You always do a good job.		■			■

Grammar
Activity Sheet 9A
Verbs: Person

Name _____

1. He never tells anything but the truth.
2. The word "terrain" means "land."
3. You identify classes of terrain features on a military map.
4. Terrain features are either natural or man-made.
5. We use five colors to identify a class of features.
6. BLACK shows most cultural or man-made features.
7. Water features such as lakes, rivers, or swamps are shown in BLUE.
8. GREEN is for vegetation--woods, orchards, vi ards.
9. RED points out man-made features that are cl ified by their kind or use--main roads, built-up areas.
10. All contour lines are identified by BROWN.
11. "Contour" means "outside edge."
12. Closed contour lines show hilltops.
13. The lowest terrain between two hilltops is called a saddle.
14. Take the easiest route possible.
15. Pvt Jones says the enemy is on the hill.
16. I don't go through the saddle.
17. Maps show valleys with U or V-shaped brown lines.
18. The base of the U or V points toward higher ground.
19. On a ridge, the ground slopes down in three directions.
20. A ridge is a fairly long and narrow piece of terrain.

ANSWER SHEET
Grammar
Activity Sheet 9A
Verbs: Person

Name _____

	Person			Singular	Plural
	1	2	3		
1.	||	||	||	||	||
2.	||	||	||	||	||
3.	||	||	||	||	||
4.	||	||	||	||	||
5.	||	||	||	||	||
6.	||	||	||	||	||
7.	||	||	||	||	||
8.	||	||	||	||	||
9.	||	||	||	||	||
10.	||	||	||	||	||
11.	||	||	||	||	||
12.	||	||	||	||	||
13.	||	||	||	||	||
14.	||	||	||	||	||
15.	||	||	||	||	||
16.	||	||	||	||	||
17.	||	||	||	||	||
18.	||	||	||	||	||
19.	||	||	||	||	||
20.	||	||	||	||	||

Grammar
Activity Sheet 10A
Verbs: Tense

Name _____

TENSE means "time." Tense of the verb means "when" the action takes place. The three simple tenses are the PRESENT, the PAST, and the FUTURE.

The PRESENT tense tells what is happening NOW.

Example: Today the company marches together.

Most action verbs are REGULAR verbs. To make the PRESENT tense of regular verbs, you use the original form of the verb for all persons everywhere except the 3rd person singular. The letter "s" must be added to the 3rd person singular.

Example:	Singular	Plural
1st Person (the speaker)	I salute	We salute
2nd Person (person spoken to)	You salute	You salute
3rd Person (person spoken about)	He She salutes It	They salute

REMEMBER: AN "S" ON A VERB MAKES IT SINGULAR!

The PAST tense tells what already has happened.

Example: Yesterday the squad marched well.

You form the PAST tense of REGULAR verbs by adding "-ed" to the verb. If the verb ends in "-e," just add "d" to form the PAST tense.

Example:	Present	Past
	release	release (d)
	salute	salute (d)
	march	march (ed)
	desire	desire (d)

Instructions: If the underlined verb is PAST tense, change it to PRESENT. If it is PRESENT tense, change it to PAST. Put the correct verb on the line at the end of the sentence.

Example: SP4 Miller salutes the flag. saluted

1. To disassemble the M16A1 rifle, you cleared it first. _____
2. Pvt Jones removes the sling and handguards. _____
3. He disassembles the rifle according to his manual. _____
4. After disassembly, you lubricated your weapon. _____

Grammar
Activity Sheet 10A
Verbs: Tense

Name _____

5. After firing, he cleaned his weapon for 3 consecutive days with rifle bore cleaner. _____

6. He wiped it dry. _____

7. The bolt carrier group needed a good cleaning. _____

8. You remembered to remove excess oil from the bore before firing. _____

9. He applies only a light coat of LSA to the firing pin and the firing pin recess. _____

10. You use a generous amount of LSA inside the lower receiver. _____

Grammar
Activity Sheet 11A
Regular Past Participle

Name _____

In Activity Sheet 10A, you learned about the PRESENT TENSE and the PAST TENSE of verbs. There is another kind of verb form called the PART PARTICIPLE. It looks a lot like the past tense. You add "-ed" or "-d" to a regular verb, just like in the past tense.

BUT THERE IS A DIFFERENCE! THE PAST PARTICIPLE MUST ALWAYS HAVE A HELPING VERB WITH IT!

Example: 1. They reduced the number of weapons in the arsenal. (Past)

2. They have reduced the number of weapons in the arsenal. (helping verb: have; past participle: reduced)

Important: In a past participle, only the helping verb has NUMBER. It is either singular (one) or plural (more than one). If the subject of the sentence is plural, the helping verb must be plural. If the subject is singular, the helping verb must be singular. The past participle keeps the same form no matter what the subject is. ONLY THE HELPING VERB CHANGES.

Instructions: The subject is underlined with one line. The complete verb phrase is underlined with two lines. If the subject and verb agree in NUMBER (BOTH are singular or BOTH are plural), blacken the "yes" box. If they do not agree, blacken the "no" box.

	Yes	No
Example: The soldiers has reduced the number of weapons in the arsenal.	☐	■

"Soldiers" is the subject. It is plural. "Has reduced" is the verb. "Has" is the helping verb; it is singular. The subject is plural; the verb is singular. They do not agree. Blacken "no."

REMEMBER: AN "S" ON A SUBJECT MAKES IT PLURAL. AN "S" ON A VERB MAKES IT SINGULAR.

	Yes	No
1. The soldiers have loaded the chamber of the M16A1 rifle within 10 seconds.	☐	☐
2. Pvt Jones of Company A have cocked the rifle.	☐	☐
3. He has placed the selector level on "safe."	☐	☐
4. Sgt Smith has opened the bolt.	☐	☐

Grammar
Activity Sheet 11A
Regular Past Participle

Name _____

	Yes	No
5. She have looked into the chamber to be sure that it is clear.	☐	☐
6. "I has known that it is clear," she says.	☐	☐
7. The magazine is pushed upward until the magazine catch engages.	☐	☐
8. Some soldiers has never chambered a round before.	☐	☐
9. The upper portion of the bolt catch is depressed with the bolt assembly open.	☐	☐
10. A soldier in the squad have pulled the charging handle fully rearward with the bolt assembly closed.	☐	☐

Grammar
Activity Sheet 12A
Irregular Past and Past Participles Name _____

The principal (main) parts of irregular verbs are not formed by any set rules. To learn them, you have to practice, practice, and practice some more!

Many irregular verbs form their past and past participle by a changed letter within the word.

Present	Past	Past Participle
begin	began	have begun
sing	sang	has sung
drink	drank	have drunk
dig	dug	has dug

The past and past participle of some irregular words are alike.

Present	Past	Past Participle
buy	bought	has bought
sleep	slept	have slept
bleed	bled	has bled
dive	dived	has dived

There are some irregular verbs which make no change in the present, the past, or the past participle.

Present	Past	Past Participle
burst	burst	has burst
cut	cut	has cut
hurt	hurt	have hurt
put	put	have put

You will need to memorize the following irregular words:

PRESENT	PAST	PAST PARTICIPLE
am	(was / were)	have been
become	became	have become
begin	began	have begun
blow	blew	have blown
break	broke	have broken
burst	burst	have burst
choose	chose	have chosen
come	came	have come
dive	dived	have dived
do	did	have done
draw	drew	have drawn
drink	drank	have drunk
drive	drove	have driven
eat	ate	have eaten
ring	rang	have rung
ride	rode	have ridden

Grammar
Activity Sheet 12A
Irregular Past and Past Participles

Name _____

PRESENT	PAST	PAST PARTICIPLE
fall	fell	have fallen
fight	fought	have fought
flee	fled	have fled
fly	flew	have flown
forget	forgot	have forgotten
freeze	froze	have frozen
get	got	have gotten
go	went	have gone
grow	grew	have grown
hang (clothing)	hung	have hung
hang (a person)	hanged	have hanged
know	knew	have known
lay (to place)	laid	have laid
lead (to guide)	led	have led
lie (to rest)	lay	have laid
lie (to fib)	lied	have lied
raise (to lift)	raised	have raised
rise (to go up)	rose	have risen
run	ran	have run
say	said	have said
see	saw	have seen
sing	sang	have sung
sit	sat	have sat
speak	spoke	have spoken
steal	stole	have stolen
swim	swam	have swum
take	took	have taken
teach	taught	have taught
tear (to rip)	tore	have torn
throw	threw	have thrown
wear	wore	have worn
write	wrote	have written

TROUBLESOME VERB FORMS: MEMORIZE THESE !

has begun	have gone
is broken	should have known
could have come	might have taken
should have done	should have seen
must have eaten	has rung
had fallen	could have thrown
had flown	has ridden

Grammar
Activity Sheet 12A
Irregular Past and Past Participles Name _____

IRREGULAR PAST PARTICIPLE PRACTICE

Instructions: In the first 15 sentences, fill in the blank with the correct principal part of the verb. Remember: YOU MUST USE THE PAST PARTICIPLE WHEN YOU HAVE A HELPING VERB.

Example: 1. He has drunk a quart of milk. DRINK

"Drink" is the verb. Use the past participle, "drunk", because it has a helping verb, "has."

1. The compass is _____. BREAK
2. She had _____ off the bunker. FALL
3. They have _____ home already. GO
4. It has _____ to rain. BEGIN
5. You should have _____ those missiles. SEE
6. He could have _____ the grenade higher. THROW
7. You should have _____ the answer. KNOW
8. We might have _____ it by mistake. TAKE
9. Has the bell _____ yet? RING
10. He should have _____ it himself. DO
11. You could have _____ earlier. COME
12. We must have _____ a whole watermelon! EAT
13. The birds have all _____ away. FLY
14. They had _____ five miles. SWIM
15. He had not _____ to his mother lately. WRITE

Now, in the following 10 sentences, you are given a choice of two verbs. Underline the correct verb with two lines.

Example: 1. The soldier (drived, drove) the vehicle in the mud.

"Drove" is the correct past tense of the verb "drive."

 Name _____

16. The vehicle (blew, blowed) a tire during maneuvers.

17. SP4 Jones (swimmed, swam) a record mile in the battalion competition.

18. He (became, becomed) a soldier in order to see the world.

19. The small, courageous nation (fighted, fought) the war by itself.

20. The discouraged factory worker (chose, choosed) not to attend the meeting.

21. During the violent storm, a valuable item (falled, fell) from the shelf.

22. Yesterday I (breaked, broke) the compass I was given.

23. She (drank, drinked) the medicine from the delicate teacup.

24. The M35 2½ ton truck (runned, ran) out of gas.

25. The soldier (threw, throwed) the grenade correctly.

Grammar
Activity Sheet 13A
Verbs: Changing from Past Tense to Past Participle

Name _____

You have learned about the three principal parts of verbs: the present, the past, and the past participle. The most common mistake made is confusing the PAST with the PAST PARTICIPLE.

REMEMBER: THE PAST PARTICIPLE MUST HAVE A HELPING VERB. THE PAST TENSE NEVER HAS A HELPING VERB.

Instructions: Find the verb in the following sentences. Underline it with two lines. It is past. Then, change it to the past participle. Use "have" (plural) or "has" (singular) as the helping verb. Write the new verb on the blank at the end of the sentence. Use your list of irregular verbs if you need to!

Example: Smith went AWOL. has gone

"Smith" is singular, so you use "has" as the helping verb because it is singular. "Gone" is the part participle of the verb "go."

1. The young recruit fell from the pontoon bridge. _____
2. Of the entire battalion, only A Company passed inspection. _____
3. PFC Jones rode in the back of the jeep. _____
4. They completed the course in record time. _____
5. The separate battalions sent their best men to the meeting. _____
6. She hid the jeep in the underbrush. _____
7. Smith began to run faster at PT. _____
8. The CO chose the Soldier of the Quarter. _____
9. We did our best! _____
10. You drove the jeep over the rugged terrain. _____
11. I was the last man in the parade. _____
12. The shrapnel came flying from every direction. _____

Grammar
Activity Sheet 14A
Confusing Verbs

Name _____

Some verbs are troublesome. They need special study.

LIE and LAY

The verb "to lie" means to rest or recline. Its principal parts are "lie," "lay," and "have lain." It never has an object (a word following the verb which answers the question "what" or "whom"). The verb "to lay" means to put or place. Its principal parts are "lay," "laid," and "have laid."

VERB	MEANINGS	EXAMPLES	OBJECT
LIE (lie, lay, has lain, lying)	to stretch out (this word never takes an object)	1. Lie in the shade of the tree.	No object
		2. He lay down for an hour.	No object
		3. No one else has lain there.	No object
LAY (lay, laid, has laid, laying)	to put or place (This word always has an object)	4. Lay the rifles side by side.	Lay what? Rifles
		5. He laid the money on the table.	He laid what? Money
		6. He has laid the rifles in a row.	He has laid what? Rifles

You have the same problem with two other pairs of verbs. One verb in each pair must have a word following it that answers "what"? or "who"? or "whom"? about the verb. That's how you tell which verb to use.

SIT and SET

VERB	MEANINGS	EXAMPLES	OBJECT
SIT (sit, sat, has sat)	to rest (has no object)	1. He sits in the bunker alone.	No object
		2. They sat on the fender of the vehicle.	No object
		3. That food has sat in the hot sun all day.	No object
SET	to put or place	4. He sets the ammo on the desk.	He sets what? The ammo
		5. You set the sergeant straight.	You set whom? The sergeant
		6. Smith has set the platoon record in the hurdle event.	Smith has set what? The record

Grammar
Activity Sheet 14A
Confusing Verbs

Name _____

RISE and RAISE

VERB	MEANINGS	EXAMPLES	OBJECT
RISE (rise, rose, has risen)	to move higher (has no object)	1. The sun rises on the horizon.	No object
		2. His voice rose above the noise.	No object
		3. I have risen at 6 a.m. every day.	No object
RAISE (raise, raised, has raised)	to make something go up (has an object)	4. Did you raise the flag?	You did raise what? The flag.
		5. I raised the question of extra pay.	I raised what? The question.
		6. He has raised flowers in his spare time.	He has raised what? Flowers

The next four pairs of words often confuse. The MEANINGS of these words are what is important.

TEACH and LEARN

VERB	MEANING	EXAMPLES
TEACH	to show how, to give instruction	1. I can teach you about verbs.
		2. You do not learn easily.
LEARN	to find out something	3. I can learn you about verbs. (WRONG!)

MAY and CAN

MAY	to permit or allow	4. All of you may try to win.
		5. No other soldier can do this correctly.
CAN	to be able	6. Can I go to the movies? WRONG!

LET and LEAVE

LET	to allow or permit	7. Let us help you.
		8. I must leave now.
LEAVE	to go away	9. Leave us help you. WRONG!

Grammar
Activity Sheet 14A
Confusing Verbs

Name _____

BRING and TAKE

VERB	MEANING	EXAMPLES
BRING	to carry toward the speaker	10. Bring me a glass of water. 11. Please take my coat upstairs.
TAKE	to carry away from the speaker	12. Will you bring me to the movies? (WRONG!)

It is important that you use these verbs correctly in speaking and writing. MEMORIZE THEM!

Instructions: In the following sentences decide which verb is correct. Underline the verb with two lines.

Example: Yesterday we (lay, laid) in the sun.

We "stretched out;" you need the verb "to lie." "Lay" is the past tense of that verb. Notice that there is no object. The verb "to lie" does not take an object.

1. You can't (teach, learn) an old dog new tricks.
2. Smith (lay, laid) his maps on the sergeant's desk.
3. He (set, sat) his compass on a flat surface.
4. We saw the cloud of smoke (raise, rise) in the distance.
5. The sergeant would not (let, leave) us alone.
6. He was (laying, lying) in a pool of sweat.
7. Jones had (taught, learned) the phonetic alphabet in a week of study.
8. They wouldn't (let, leave) me help with the detail.
9. The soldiers (set, sat) around the open fire.
10. He (rose, raised) his hand to ask a question.
11. The private (took, brought) me flowers when I was sick.
12. His uncle always (takes, brings) me to the ball game.

Grammar
Activity Sheet 15A
Subject and Verb Agreement

Name _____

The SUBJECT and VERB of a sentence must agree in PERSON and NUMBER. Both the subject and the verb must be singular or BOTH must be plural. Otherwise, the sentence is wrong.

Example: 1. A soldier has wounds.

"Soldier" is singular; "has" is singular.

2. Both soldiers have wounds.

"Soldiers" is plural; "have" is plural.

VERBS THAT END IN "S" ARE SINGULAR. MOST SUBJECTS THAT END IN "S" ARE PLURAL.

The verb "do" can cause you problems. Remember: "Does" is singular; "do" is plural. "Doesn't" is singular; "don't" is plural. Use "does" and "doesn't" for the 3rd person singular (he doesn't). Use "do" and "don't" everywhere else (I do, they don't).

Example: 1. She doesn't understand the manual.

"She" is 3rd person singular. It agrees with "doesn't."

2. I don't want to have extra duty.

"I" is 1st person singular. It agrees with "don't."

NEVER SAY "HE DON'T," SHE DON'T," IT DON'T"!!

The subject "You" (whether singular or plural) ALWAYS has a PLURAL VERB.

Example: 1. Were you late today? NOT "WAS"!

2. You were late yesterday too.

Instructions: In the following sentences underline the subject with one line. Underline the verb with two lines. If the subject and verb agree, blacken the "yes" box. If they do not agree, blacken the "no" box.

	Yes	No
Example: 1. PVT Smith always puts his protective clothing on correctly. (Subject and verb are both singular.)	■	□
2. A NATO contamination marker have a triangle shape. (Subject is singular; verb is plural. They do NOT agree.)	□	■

Grammar
Activity Sheet 15A
Subject and Verb Agreement

Name _____

	Yes	No
1. Pvt Jones digs a hasty hole for minimum protection.	☐	☐
2. He make the hole armpit deep.	☐	☐
3. They camouflages their jeep with branches.	☐	☐
4. You puts on, clears, and checks your protective mask in 9 seconds.	☐	☐
5. You spot smoke, mist, vapor, or drops.	☐	☐
6. They doesn't get to shelter in time.	☐	☐
7. Was the alert siren loud enough?	☐	☐
8. You uses your shelter half for cover.	☐	☐
9. Doesn't your mother write you letters?	☐	☐
10. Don't you approach your position from the rear?	☐	☐

Grammar
Activity Sheet 16A
Agreement: "There" and "Here" Name _____

The words "there" and "here" are never the subject of a sentence. When "there" or "here" is the first word in the sentence, it tells you that the subject will be found somewhere else. Drop "there" or "here" and rearrange the sentence.

Example: 1. There is an obstacle in the road.
(Drop "there" and rearrange the sentence.)
(subject) (verb)
An obstacle is in the road.

2. There are obstacles ahead.
(Drop "there" and rearrange the sentence.)
(Subject) (verb)
Obstacles are ahead.

It is important to find the real subject. It must agree with the verb in NUMBER. Both must be singular (one) or both must be plural (more than one).

Remember: THERE / HERE is, was = SINGULAR THERE / HERE are, were = PLURAL

Instructions: Cross out "there" or "here." Underline the subject with one line. Decide if the subject is singular or plural. Blacken the correct space. Then, choose the correct form of the verb and underline it with two lines.

	Singular	Plural
Example: ~~Here~~ (is, are) the cushion for the chair.	■	‖

REMEMBER: AN "S" ON A VERB MAKES IT SINGULAR.
AN "S" ON A SUBJECT MAKES IT PLURAL.

	Singular	Plural
1. There (goes, go) my favorite car down the street.	‖	‖
2. Here (is, are) Pvt Smith and SP4 Davis now.	‖	‖
3. There (was, were) only one marker on the field.	‖	‖
4. There (was, were) no enemy tanks in the distance.	‖	‖

Grammar
Activity Sheet 16A
Agreement: "There" and "Here" Name _____

		Singular	Plural
5.	Here on the table (is, are) the reports you requested.	||	||
6.	Here (comes, come) the heavy artillery.	||	||
7.	On sick call, there (was, were) many soldiers with the flu.	||	||
8.	There (doesn't, don't) seem to be a sergeant in the orderly room.	||	||
9.	There always (is, are) two sides to every story.	||	||
10.	Here on the last page (is, are) the correct answer for the problem.	||	||

Grammar
Activity Sheet 17A
Pronouns: Person, Number, Antecedent Name _____

PRONOUNS take the place of nouns or refer to nouns in the sentence. They are shortcuts for the names of persons, places, and things.

Personal pronouns are used in place of the person speaking (I, me, we, us); in place of the person spoken to (you); and in place of the person spoken about (he, him, she, her, they, them). They are substitutes for nouns. PRONOUNS MAY BE SINGULAR OR PLURAL.

	SINGULAR (ONE)	PLURAL (MORE THAN ONE)
1st person (person speaking)	I, me, my, mine, myself	we, us, our, ours, ourselves
Example:	1. John and I have won the race.	
	2. We have won the race.	
2nd person (Person spoken to)	you, your, yours	you, your, yours, yourself
Example:	3. You may go if you wish.	
3rd person (Person spoken about)	he, him, his, himself, she, her, hers, herself, it, its	they, them, their, theirs, themselves
	4. He can type better than she.	
	5. They told her to stay home.	

"It" doesn't refer to anybody in particular. It is used everywhere to refer to any place or thing.

The word that a pronoun refers to is called the ANTECEDENT of the pronoun. ANTECEDENT is a big word that just means "coming before." The antecedent comes before the pronoun. It is important for you to be able to find the antecedent because the PRONOUN MUST AGREE WITH THE ANTECEDENT IN PERSON AND NUMBER. If the antecedent is singular, you use the singular form of the pronoun. If the antecedent is plural, you use the plural form of the pronoun.

Two or more antecedents connected by "and" need a PLURAL pronoun.

Example: 6. Harry and John lost their way. (not "his")

Two or more singular antecedents connected by OR or NOR need a SINGULAR pronoun.

Example: 7. Either Harvey or John lost his way.

If two antecedents joined by OR or NOR are not in the same person or number, the pronoun must agree with the antecedent closer to it.

Example: 8. Neither we nor John lost his way.
("We" is 1st person plural. "John" is 3rd person sirgular. "His" is 3rd person singular to agree with "John" because "John" is closer to it than "we."

Example: 9. Neither John nor we lost our way.

Grammar
Activity Sheet 17A
Pronouns: Person, Number, Antecedent Name _____

Instructions: A pronoun is circled in each of the following sentences. Find its antecedent. Underline the antecedent with one line. Decide if the pronoun is 1st, 2nd, or 3rd person. Check the correct circle. Then, decide if the pronoun is singular or plural. Check the correct circle.

	1st	2nd	3rd	Singular	Plural
Example: I need the book but can't find (it).	0	0	●	●	0
1. The children waited for me to pick (them) up.	0	0	0	0	0
2. Smith is looking for (his) rifle.	0	0	0	0	0
3. Jones brought those manuals home because (they) looked interesting.	0	0	0	0	0
4. I saw the sergeant and gave (him) the money I owed him.	0	0	0	0	0
5. We drove (our) vehicle across the ridge.	0	0	0	0	0
6. I know Smith was there because I saw (her).	0	0	0	0	0
7. I was pleased that the teacher gave (me) a good grade.	0	0	0	0	0
8. The two soldiers accomplished the mission by (themselves).	0	0	0	0	0
9. "Soldiers, may I welcome (you) to the Army!"	0	0	0	0	0
10. I lost (my) weapon for a short time.	0	0	0	0	0

Grammar
Activity Sheet 18A
Verb Agreement with Indefinite Pronouns Name_____

Pronouns are short cuts for names of persons, places, and things. You learned about them in earlier Activity Sheets. They can be used as the subject of a sentence. They must agree in NUMBER with the verb in the sentence.

1. THESE PRONOUNS ALWAYS HAVE A SINGULAR VERB WHEN THEY ARE THE SUBJECT OF THE SENTENCE:

another	either	nobody
anybody	everybody	one
anyone	everyone	somebody
each	neither	someone

Example: Everyone is late for formation.
"Everyone" is singular; "is" is singular.

2. THESE PRONOUNS ALWAYS HAVE A PLURAL VERB:

both	many	several
few	others	

Example: Several were late for formation.
"Several" is plural. "Were" is plural.

3. CERTAIN PRONOUNS MAY HAVE EITHER A SINGULAR VERB OR A PLURAL VERB. IT DEPENDS ON THE MEANING OF THE SENTENCE.

all	none
any	some

Example: 1. Some of the pie was eaten.
2. Some of the pies were eaten.

In Example 1, a part of one pie was eaten. In Example 2, more than one pie was eaten. "Some" is singular in #1 and plural in #2.

Instructions: Underline the pronoun that is the subject with one line. Choose the correct verb. Underline it with two lines. Refer to the rules! Remember: AN "S" MAKES A VERB SINGULAR!

Example: 1. Nobody in the company (wants, want) to leave.

1. Everybody (has, have) to do his share of the work.

2. Then nobody (suffers, suffer).

3. Few (knows, know) the kind of person he really is.

Grammar
Activity Sheet 18A
Verb Agreement with Indefinite Pronouns Name _____

4. Both (understands, understand) the burden he carries.

5. One of the men (is, are) sick.

6. Many of the packages (was, were) opened.

7. Anyone in the squad (has, have) the same opportunity.

8. All of the mistakes (was, were) my fault.

9. Every night all of the water (disappears, disappear).

10. Others (is, are) better at PT.

Grammar
Activity Sheet 19A
Indefinite Pronouns as Antecedents Name _____

You learned about INDEFINITE PRONOUNS on Activity Sheet 18A. An indefinite pronoun does not define or stand for a particular person or thing.

The following indefinite pronouns are SINGULAR.

everybody	someone	either	no one
everyone	each	neither	a person
anyone	nobody	one	many a

The personal pronouns that refer to them must be SINGULAR in number also.

(Antecedent)
Example: Everyone brought his own lunch.
(not their)

(Antecedent)
Each of the girls wants her own way.
(not their)

PLURAL indefinite pronouns must have a PLURAL personal pronoun that refers to it. The following indefinite pronouns are PLURAL:

several	few	all
both	many (without a)	

You must use PLURAL personal pronouns with them.

(Antecedent)
Example: All of the girls want their way.

Instructions: In the following sentences, circle the antecedent. Then underline with one line the pronoun that agrees with it in number.

Example. If (anyone) cares to leave, (he, they) may do so now.

1. One of the men forgot (his, their) book.

2. Several of the soldiers brought (his, their) own weapons.

3. Few in the crowd raised (their, his) hand to volunteer.

4. Will everyone please help (themselves, himself)?

 Name _____

5. Nobody ever learns all that (he, they) should.

6. Many a troop has been known to forget (his, their) rucksack.

7. Everybody knows (their, her) way down the ridge.

8. Someone always displays (his, their) courage in the midst of battle.

9. Each in the company knows exactly what (they, he) wants.

10. Anyone who has the time may have (his, their) leave verified.

Grammar
Activity Sheet 20A
Collective Nouns as Antecedents Name _____

In Activity Sheet 6A, you learned that collective nouns are words that are singular, but suggest more than one person. You were learning about subject-verb agreement on that activity sheet.

When a COLLECTIVE NOUN is the antecedent, the pronoun that refers to it must be SINGULAR to agree with the noun. The pronouns "IT" and "ITS" are used when referring to collective nouns. Use "they" or "their" only when referring to Plural collective nouns.

Example: 1. Society must protect (its, their) members from violence.
("Society" is the collective noun. It is singular. "Its" is singular.)

2. Schools give (its, their) employess annual sick leave.
("Schools" is the collective noun. It is plural [more than one school]. "Their" is plural.)

Instructions: In the following sentences, circle the collective noun that is the antecedent. Underline the correct pronoun with one line.

Example: 3. The (committee) sent (its, their) request to the colonel.

1. The squad made (their, its) quota in record time.

2. The small nations survived the collapse of (their, its) armies.

3. That Indian tribe has (their, its) reservation on government land.

4. His college is having (their, its) annual reunion next week.

5. The classes took (their, its) finals last week.

6. My family gave (their, its) approval of my choice.

7. The swim team won the ribbon from (their, its) competition.

 Name _____

8. We saw the herd of cattle heading toward (their, its) barn.

9. Our school had (their, its) winning record broken.

10. The federal government always spends (their, its) money wisely.

Grammar
Activity Sheet 21A
Practice on Pronouns Agreeing
with Antecedents

Name _____

This is a practice page. It lets you practice what you learned on Activity Sheets 17A through 20A.

Instructions: Underline the correct pronoun to complete the meaning of each sentence.

Example: Company A did (their, <u>its</u>) best.
(The antecedent of the pronoun is "Company A." "Company A" is a singular collective noun. <u>Its</u> is singular; <u>their</u> is plural. Underline <u>its</u>.)

1. Either the men or the women left (her, their) weapons unattended.
2. The baby sparrow lost (his, its) wing.
3. Every infantryman must bring (his, their) personnel file to the Education Center.
4. Yesterday someone arrived late for (his, their) outbriefing.
5. All of the design lost (its, their) color on the transfer.
6. No one in the unit completed (his, their) task in the allotted time.
7. They expect everyone to do (their, his) share of the work.
8. Neither the other soldiers nor he received the score (they, he) deserved.
9. Many a commander has wished that (their, his) unit would operate smoothly.
10. To everyone's relief, nobody spotted enemy fire through (his, their) field glasses.
11. Our nation would aid (their, its) neighbors in time of war.
12. Smith and Jones were courteous as they expressed (their, his) ideas on the subject.
13. Jones was relieved from duty because of circumstances beyond (her, its) control.
14. The vibrating engine finally fell from (its, their) motor mounts.
15. Each of the soldiers was told to select (his, their) probable position.
16. One of the children plucked a splinter from (their, his) finger.

Grammar
Activity Sheet 21A
Practice on Pronouns Agreeing
with Antecedents

Name _____

17. Either he or they would improve (his, their) scores considerably.

18. Jones or Smith could not find (his, their) first aid kit.

19. Our army furnished (their, its) men with all the proper equipment.

20. Everybody was asked to regulate the volume of (their, his) radio.

Grammar
Activity Sheet 22A
Pronouns Used as Subjects

Name _____

Pronouns have different forms depending on the work they do in the sentence.

You use some pronouns only as the subject of the sentence or following a linking verb.

PRONOUNS WHICH ARE USED ONLY AS SUBJECTS OR FOLLOWING A LINKING VERB:

	Singular	Singular or Plural	Plural
1st person	I	Who	We
2nd person	You		You
3rd person	He, She, or It		They

Examples: 1. She gave the book to John.
("She" is the subject.)

2. It was I who asked the question.
("I" follows the linking verb "was.")

These nine pronouns can be used only as the subject of the sentence or after a linking verb!

Instructions: Underline the subject pronouns. Decide if the subject pronouns in the following sentences are used correctly (as a subject or after a linking verb). If they are correct, mark "Yes." If they are not correct, mark "No."

		Yes	No
Examples: 1.	Jones sent the required material through channels to he. ("He" is a subject pronoun. But it is not used as the subject and it does not follow a linking verb in this sentence, so the sentence is incorrect.)	0	●
2.	That was they at the door. ("They" is a subject pronoun. It is used in this sentence after a linking verb, so the sentence is correct.)	●	0
1.	We enlisted men need someone to represent us.	0	0
2.	The first sergeant gave I a lecture on saluting properly.	0	0
3.	To they, the ceremony was the best portion of the show.	0	0

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Grammar
Activity Sheet 22A
Pronouns Used as Subjects

Name _____

		Yes	No
4.	I promised him a second chance to qualify.	0	0
5.	The sergeant discouraged Jones and I from reenlisting.	0	0
6.	Smith asked she a marvelous question about driving vehicles.	0	0
7.	The platoon leader told Smith and he to lead the attack.	0	0
8.	After the maneuver was completed, you and Jones were exhausted.	0	0
9.	The winners of the marching event were they.	0	0
10.	The squad leader made we and them climb to the top of the ridge.	0	0

Grammar
Activity Sheet 23A
Pronouns Used as Objects

Name _____

You learned on Activity Sheet 3A that some verbs have an OBJECT. An OBJECT is a word that answers the question WHOM? or WHAT? PRONOUNS CAN BE USED AS THE OBJECT OF THE VERB.

PRONOUNS WHICH CAN BE USED AS OBJECTS OF VERBS:

	Singular	Singular or Plural	Plural
1st person	ME	WHOM	US
2nd person	YOU		YOU
3rd person	HIM, HER, IT		THEM

REMEMBER, OBJECTS MUST FOLLOW AN ACTION VERB

Examples: 1. I hit him.
("Hit" is an action verb. "Whom" did "I" hit? Him. "Him" is the object.)

2. I know Bob was there because I saw him.

Pronouns used as objects also have ANTECEDENTS. (See Activity Sheet 17A.) In Example 2, the pronoun "him" refers to "Bob." "Bob" is the ANTECEDENT. "Bob" is 3rd person singular. "Him" is 3rd person singular. They agree in person and number.

Instructions: Underline the object pronouns. Decide if they are used correctly. If they are correct, mark "Yes." If they are not correct, mark "No."

		Yes	No
Examples: 1.	Jones and me walked the entire course in combat boots. ("Me" is used as the subject. Object pronouns can NOT be used as subjects. Mark "No.")	0	●
2.	The sarge asked me a question. ("Me" comes as an object after an action verb. It has an antecedent, "sarge." It is correct.)	●	0
1.	The grenades were thrown by Jones and them.	0	0
2.	Me and Jones received permission to attend school this cycle.	0	0

Grammar
Activity Sheet 23A
Pronouns Used as Objects

Name _____

		Yes	No
3.	Smith likes Jones better than Jones likes her.	0	0
4.	Him and the sarge have become close friends.	0	0
5.	The speaker told us listeners to pay special attention.	0	0
6.	The best soldier is him who tries the hardest.	0	0
7.	Them know that breathing is very important in the firing of the .38 caliber revolver.	0	0
8.	The manual instructed her to grip the revolver after forming a "V" with the thumb and forefinger of the firing hand.	0	0
9.	If a stoppage occurs in an M60 machinegun, us soldiers pull the cocking handle to the rear.	0	0
10.	Jones and me assumed a stable, prone firing position to get ready to fire the M60.	0	0

Grammar
Activity Sheet 24A
Practice on Subject and Object Pronouns Name _____

This is a practice page to help you review what you learned on Activity Sheets 22A and 23A.

Instructions: Decide whether the sentence should have a subject pronoun or an object pronoun. Blacken the correct space at the end of the line. Then underline the correct pronoun with one line.

Examples:	Subject Pronoun	Object Pronoun
1. (We, Us) will attend the meeting. (The pronoun acts as the subject of the sentence. "We" is a subject pronoun. "Us" is an object pronoun. Underline "We.")	●	0
2. The military police chased Andrews and (she, her). (The pronoun is used as an object in this sentence. "She" is a subject pronoun. "Her" is an object pronoun. Underline "her.")	0	●
1. (Him, He) and (me, I) go to chow together.	0	0
2. SGT Jones asked Smith and (I, me) to do him a favor.	0	0
3. By 7:30, Jones and (he, him) had finished PT.	0	0
4. (Them, They) received much praise after the deployment.	0	0
5. That spoiled food made Smith and (he, him) sick.	0	0
6. The star helped (me, I) with my lay-up shots.	0	0
7. The sergeant and (her, she) got on each other's nerves.	0	0
8. Why don't you give (us, we) short people a chance to play basketball?	0	0
9. It's (me, I) you want to see.	0	0
10. (Them, They) and (us, we) should try to get along better.	0	0
11. (Who, Whom) shall we invite?	0	0

Grammar
Activity Sheet 24A
Practice on Subject and Object Pronouns Name _____

		Subject Pronoun	Object Pronoun
12.	(Who, Whom) is at the door?	0	0
13.	The colonel met Jones and (I, me) at the door.	0	0
14.	The recruiter sold (they, them) a bill of goods.	0	0
15.	(Her,She) told me to leave at once.	0	0
16.	I phoned both recruits, Smith and (him, he).	0	0
17.	That was (they, them) I saw on the vehicle.	0	0
18.	(Her, She) and her brother enlisted together.	0	0
19.	They invited the winners and (I, me) to the celebration.	0	0
20.	The platoon leader told (we, us) men to follow him.	0	0

Grammar
Activity Sheet 25A
Pronouns After Prepositions

Name _____

A PREPOSITION is a word which joins a noun or a pronoun to another word in the sentence. It shows the relation between the two words. It describes direction or place or time.

Example: 1. The sergeant sat with the troops.
("With" is the preposition. It shows the relationship between "sergeant" and "troops.")

Every preposition must have a noun or pronoun as its OBJECT. You learned about OBJECTS on Activity Sheet 3A . If a pronoun follows a preposition, it must be one of the following pronouns:

	Singular	Plural
1st Person	ME	US
2nd Person	YOU	YOU
3rd Person	HIM, HER, IT	THEM

These are the same pronouns that you use as the OBJECT of the verb. See Activity Sheet 23A. YOU NEVER USE THESE PRONOUNS AS THE SUBJECT OF THE SENTENCE or AFTER A LINKING VERB!

Some of the prepositions you often use are:

to	at	around	up	across	except
for	near	between	upon	behind	from
with	by	among	through	off	
in	on	beside	past	of	

Instructions: In each of the following sentences, circle the preposition. Then choose the correct pronoun. Underline it with one line.

Example: 1. (Between) you and (I, me), he chose you.
("Between" is a preposition. "Me" is the object of the preposition.)

1. Give the same to both him and (I, me).

2. Everybody seemed happy except (she, her) and her sister.

3. On the way home, I sat between (he, him) and her.

Grammar
Activity Sheet 25A
Pronouns After Prepositions

Name _____

4. He told his life story to Smith and (I, me).

5. Our tanks were behind (they, them).

6. It arrived among (they, them) during practice.

7. The splinter was plucked from my finger by (she, her).

8. The mission was completed with help from the soldiers and (I, me).

9. The entire enemy camp seemed to be all around (we, us).

10. Between you and (I, me), I think you're the better marksman.

Grammar
Activity Sheet 26A
Possessive Pronouns

Name _____

POSSESSIVE PRONOUNS are pronouns that show OWNERSHIP. They tell you who or what owns a thing.

Example: 1. That rifle is mine.
("Mine" tells who owns the rifle or has possession of it.)

PRONOUNS ~~T~~HAT SHOW OWNERSHIP

	Singular	Plural
1st Person	MY, MINE	OUR, OURS
2nd Person	YOUR, YOURS	YOUR, YOURS
3rd Person	HIS, HERS, ITS HER	THEIR, THEIRS

DO NOT USE AN APOSTROPHE IN A POSSESSIVE PRONOUN!

Example: 2. That rifle is hers. (Not her's.)

You need to be aware of a few other pronouns. Some pronouns end in -self or -selves. The important thing to remember about these pronouns are:

I. THEIRSELVES IS NOT A WORD! The correct word is THEMSELVES.
1. They went by themselves.

II. HISSELF IS NOT A WORD! The correct word is HIMSELF.
2. He kept the money for himself.

III. OURSELF IS NOT A WORD! The correct word is OURSELVES.
3. John and I wanted it for ourselves.

Instructions: Underline the correct pronoun with one line.

1. If that uniform is not ours, it must be (their's, theirs).

2. They can hurt (themselves, theirselves) with the wrong equipment.

Grammar
Activity Sheet 26A
Possessive Pronouns

Name _____

3. That hat on the counter is (your's, yours).

4. He can do the work by (hisself, himself).

5. We had the entire house to (ourself, ourselves).

6. The paint on the vehicle showed (it's, its) blisters after a week on the desert.

7. Finally, we can say one of (our's, ours) won a medal.

8. (Who's, Whose) watch has the correct time?

9. (Her's, Hers) is next to mine.

10. You keep the information to (yourselfs, yourselves).

Grammar
Activity Sheet 27A
Indefinite Pronouns: WHO, THAT, WHICH Name _____

Three little words which are very often used as PRONOUNS are WHO, THAT, and WHICH. They have special uses.

WHO refers to persons.

Example: The soldier who ran fast won the race.
("Soldier" is a person.)

THAT refers to persons or things or animals.

Examples: 1. The maneuver that he watched lasted one hour.
("Maneuver" is a thing.)

2. Any recruit that wants to may reenlist.
("Recruit" is a person.)

3. The dog that bit him had rabies.
("Dog" is an animal.)

WHICH refers to things and animals.

Examples: 1. The vehicle which lost its wheel finally arrived back at headquarters.
("Vehicle" is a thing.")

2. That is not the dog which bit him.
("Dog" is an animal.)

MEMORIZE!

WHO	PERSON
THAT	PERSON/THING/ANIMAL
WHICH	THING/ANIMAL

"WHICH" NEVER REFERS TO PERSONS.

"THAT" IS CORRECT IN EVERY SENTENCE.

Instructions: Underline WHO, THAT, or WHICH in the following sentences. If it is used correctly, mark "Yes." If it is not used correctly, mark "No." Then put the correct word on the line. Remember, if it is correct in the sentence you don't have to put a new word on the line.

	Yes	No
Example: Is he the drill sergeant which you questioned? who	☐	■

Grammar
Activity Sheet 27A
Indefinite Pronouns: WHO, THAT, WHICH Name _____

		Yes	No
1.	The unit that satisfies its soldiers gets the most work done. _____	☐	☐
2.	The newspaper who prints the truth may get more subscribers. _____	☐	☐
3.	The design that was chosen was the most colorful of all. _____	☐	☐
4.	Was it your dog who aided in the rescue mission? _____	☐	☐
5.	My friend which lives behind me has gone on vacation. _____	☐	☐
6.	The soldier that works hard will get a three-day pass. _____	☐	☐
7.	He reduced the number of casualties which might have occurred. _____	☐	☐
8.	He was told to postpone the trip which he had planned. _____	☐	☐
9.	Any ordinary person which reads the want ads can find a job. _____	☐	☐
10.	The raccoon who had rabies was killed. _____	☐	☐

Grammar
Activity Sheet 28A
Pronouns: Agreement

Name _____

You have already learned some things about the words WHO, WHICH, and THAT on Activity Sheet 27A. Now you will learn more that will help you use English better.

You have learned that the subject and verb in a sentence must agree in person and number. But in questions sometimes it is hard to find the subject.

Example: 1. Who is the owner of this dog?

The subject of this sentence is "owner," not "who." In a question, if you get confused about what the subject is, turn the sentence around:

"Who is the owner of the dog"?
"The owner of the dog is..."

Then the subject comes at the beginning. It is easier to find it and to make it agree with the verb. "Owner" and "is" are both singular. They agree.

WHO, WHICH and THAT are also pronouns that have antecedents somewhere else in the sentence.

Example: 2. I know a person who plays professional basketball.

"Who" is the pronoun; it relates to the word "person." "Person" is the antecedent. "Person" is singular. So the verb "plays" is singular to agree with "person."

Example: 3. Dogs that bite make me nervous.

"That" is the pronoun. "Dogs" is the antecedent. "Dogs" is plural. So "bite" is plural to agree with "dogs."

Instructions:

(1) In the following sentences, the pronoun is underlined. Circle the subject. Then underline the correct verb with two lines.

Examples: Which (is, are) your (slippers?)

What (is, are) your (name?)

1. Who (is, are) the students in your class?

2. What (has, have) the sergeant done to you now?

3. Which (is, are) the tests you need to take?

Grammar
Activity Sheet 28A
Pronouns: Agreement

Name _____

(2) Now, circle the antecedent. Then underline the correct verb with two lines.

Examples: Always take (jobs) that (looks, look) difficult.

(People) who (lives, live) in glass houses shouldn't throw stones.

4. Our brother likes music that (helps, help him relax.
5. I don't trust anyone who (promises, promise) to solve all my problems.
6. Don't chase any animals that (appears, appear) frightened.
7. The general likes soldiers who (wears, wear) their uniforms correctly.
8. The soldier who (qualifies, qualify) as an "expert" on his weapon will receive a commendation.
9. Azimuths, which (is, are) used in land navigation, require a lensatic compass.
10. On a map, the area that (looks, look) like an hourglass or a figure eight is a saddle.

Grammar
Activity Sheet 29A
Using Adjectives for Comparison Name _____

An ADJECTIVE is a word that tells you something about a noun. Remember that a noun names a person, place, or thing. The adjective usually answers one of these questions:

WHAT KIND?	WHICH ONE?	HOW MANY? HOW MUCH?
physical fitness	that exercise	some sweat

Every day you COMPARE things. Your CO compares the performance of the companies. The sergeant compares the behavior of the soldiers. You compare the leadership of the sergeants. In the same way, ADJECTIVES may be compared.

The COMPARATIVE degree is used to compare TWO persons or things. You make the comparative degree in different ways, depending on the length and ending of the adjective.

1. IF THE ADJECTIVE HAS ONLY ONE SYLLABLE, YOU JUST ADD -ER TO IT.

Example: 1. Sp 4 Smith is a tall soldier.
2. Sp 4 Smith is taller than Pvt Jones.
("Tall" has one syllable. Add -er.
MOST adjectives add -er to form the comparative.)

2. IF THE ADJECTIVE HAS MORE THAN ONE SYLLABLE AND ENDS IN -Y, CHANGE THE Y TO I AND ADD -ER.

Example: 1. He has a nasty temper.
2. He has a nastier temper than she does.

3. IF THE ADJECTIVE HAS MORE THAN ONE SYLLABLE AND DOES NOT END IN Y, YOU MUST ADD "LESS" OR "MORE" IN FRONT OF IT. DO NOT ADD -ER TO THE END.

Example: 1. He has a beautiful stereo system.
2. He has a more beautiful stereo system than I.
("Beautiful" has three syllables. Use "more."
Don't say "beautifuler"!

The SUPERLATIVE degree is used to compare THREE OR MORE persons or things.

1. IF THE ADJECTIVE IS ONLY ONE SYLLABLE LONG, ADD -EST

Example: Sp 4 Smith is the tallest in the squad.
(Sp 4 Smith is being compared to all soldiers in the squad.)

2. IF THE ADJECTIVE IS MORE THAN ONE SYLLABLE LONG AND ENDS IN -Y, CHANGE THE Y TO I AND ADD -EST.

Example: He is a lucky soldier.
He is the luckiest soldier in the Army.

Grammar
Activity Sheet 29A
Using Adjectives for Comparison Name _____

3. IF THE ADJECTIVE IS MORE THAN ONE SYLLABLE LONG AND DOES NOT END IN -Y, USE "LEAST" OR "MOST" IN FRONT OF IT. DO NOT ADD -EST TO THE END.

Example: He has the most beautiful stereo system in the barracks. (His stereo system is being compared to all the stereo systems in the barracks. Don't say "beautifulest"!

MEMORIZE!

I. Adjectives of one syllable add -er or -est.

old older oldest

II. Adjectives that end in -y, change -y to -i, and add -er or -est.

ugly uglier ugliest

III. Adjectives of more than one syllable use more or most.

interesting more interesting most interesting

There are just a few everyday words that do not follow the rules. You must learn these by heart!

	COMPARATIVE	SUPERLATIVE
good	better	best
bad	worse	worst
little	less	least
much	more	most
some	more	most
many	more	most

Examples:
1. He has good control of his weapon.
2. You have better control than he does.
3. I have the best control of all.

NEVER SAY "MORE BETTER" -- SAY "BETTER"!

Instructions: Underline the correct adjective in the following sentences with two lines.

Example: 1. He has the (lesser, least) control.

1. The (larger, largest) of the two men carried the extra rucksack.

2. After the battle ended, no one knew who had been the (more, most) courageous in the platoon.

Grammar
Activity Sheet 29A
Using Adjectives for Comparison Name _____

3. Of all the units, his had the (slimmer, slimmest) chance of surviving another attack.

4. Smith's reaction to the explosion was (normaler, more normal) than his friend's outburst.

5. He told the (more, most) humorous story of the evening.

6. The speaker on tactics was the (more, most) courteous of the two men on the platform.

7. Smith is (more clumsy, clumsier) than Jones.

8. The foliage is (more dense, denser) at the edge of the ridge.

9. He was told to find the (more advantageous, most advantageous) position in the area for a lookout.

10. She was the (more sensible, sensibler, most sensible) of the three recruits.

11. Jones had little money, but Smith had even (less, lesser) than that.

12. Smith had a bad burn from the chemical but Jones had the (baddest, worst) burn of all.

13. The sergeant was good at his job, maybe even the (bestest, best).

14. He would try to do a (more better, better) job in the future.

15. I feel (worse, worser, worst) about the foul-up than you do.

Grammar
Activity Sheet 30A
Adjectives: This/That These/Those Name _____

THIS/THAT and THESE/THOSE are adjectives that point out, or call attention to, nouns.

Use THIS and THAT to tell about ONE object.

Example: 1. This nation is the greatest in the world.

Use THESE and THOSE to tell about MORE THAN ONE object.

Example: 1. Those sources of information are quoted in the newspaper.

Use THIS and THESE when you point out things NEAR to the speaker.

Example: 1. These papers in my hand are the requested ones.

Use THAT and THOSE when you tell about things FAR AWAY from the speaker.

Examples: 1. That look on his face expressed all of his doubts.

2. Those maps on the wall show depressions with brown contour lines.

THIS ----- singular, near
THAT ----- singular, far away
THESE ---- plural, near
THOSE ---- plural, far away

There are certain mistakes that you can make with these adjectives if you're not careful.

1. Never use THEM in place of THOSE.

Examples: Put them books on the table. ---- WRONG
Put those books on the table. --- RIGHT

2. Never use THIS HERE or THAT THERE. Use THIS or THAT.

Examples: I bought this here coat at the store. ----- WRONG
I bought this coat at the store. ----- RIGHT

Instructions: Underline the correct word in the following sentences with two lines.

Example: 1. (This, Those) kind of vehicle frequently needs repair.
"Kind" is singular; "this" is singular. They agree.

Grammar
Activity Sheet 30A
Adjectives: This/That These/Those Name _____

1. (This here, That) distant puff of smoke indicates artillery ahead.

2. He understood only (those, that) portions of the manual about his MOS.

3. I can't tell what (that there, this) substance is in my coffee.

4. (This, These) kinds of circumstances are often misunderstood.

5. Most of (those, these) answers that he gave are correct.

6. (That, Those) kind of offer doesn't come along every day.

7. (That, Those) items on the checklist were not accounted for.

8. (This, Those) fatigues need a good washing.

9. They commenced (this here, that) search for the lost patrol last night.

10. (That, These) kind of conclusion is what we're trying to avoid.

Grammar
Activity Sheet 31A
Using Adverbs for Comparison

Name _____

Adverbs are words that modify or tell about a verb, an adjective or another adverb. They usually answer the question when? where? or how? about the word they're modifying.

Examples: 1. He came late.
(When did he come? Late. "Late" is the adverb.)

2. He sat down.
(Where did he sit? Down. "Down" is the adverb.)

3. He is very tired.
(How tired is he? Very tired. "Very" is the adverb.)

MANY ADVERBS END IN -LY. AN -LY ENDING IS A SIGNAL THAT A WORD PROBABLY IS AN ADVERB.

Example: The child sleeps peacefully.
("Peacefully" ends in -LY. It is an adverb.)

You can use adverbs to compare things the same way you use adjectives. (See Activity Sheet 29A). All adverbs that end in -LY use more in front of them to form the COMPARATIVE degree, for comparing two persons or things. Other adverbs add -er.

Examples: 1. You run more quickly than I.
2. You run faster than I.

All adverbs that end in -LY use MOST in front of them to form the SUPERLATIVE, for comparing three or more persons or things. Other adverbs add -est.

Examples: 1. You run the most quickly of anyone in the platoon.
2. You run the fastest.

Some irregular adverbs don't follow the rules.

You make the comparative and superlative degrees of these irregular adverbs as follows:

REGULAR	COMPARATIVE	SUPERLATIVE
far	farther	farthest
little	less	least
some	more	most
well	better	best
badly	worse	worst

Grammar
Activity Sheet 31A
Using Adverbs for Comparison

Instructions: Choose the correct word. Underline it with two lines.

Example: I ran (more farther, farther) than you.

If you use the -er ending, you do not need to use MORE in front of the adverb.

1. He would try to do (more better, better) in the future.

2. The vehicle turned the corner (slow, slowly).

3. Smith drives (more carefully, carefullier) than Jones.

4. He is the (most, more) highly trained in the unit.

5. Don't you think we drilled (more better, better) last cycle?

6. Of the three sergeants, I like Smith (better, best).

7. The terrain here is (prettier, more pretty) than it was there.

8. The recruit behaved (more badly, worse) than the old-timer in a tight situation.

9. The private reacted (more, most) courageously than the sergeant when the going got tough.

10. He (more clumsy, clumsily) knocked over the last canteen of water.

Grammar
Activity Sheet 32A
Confusing Adverbs and Adjectives Name _____

You have already learned on Activity Sheets 29A and 31A that adjectives modify nouns and adverbs modify verbs, adjectives, or other adverbs.

Most adjectives can be changed into adverbs by adding -ly.

Examples: 1: He gave the slow soldier a forceful shove.

2. He shoved the slow soldier forcefully.

In Example 1 "forceful" is an adjective. In Example 2, "forcefully" is an adverb.

The point of studying English is to be able to use it correctly. Since some adverbs and adjectives look alike, you must be careful not to force an adjective to do the work of an adverb.

1. ADJECTIVES usually come before the noun they modify.

adjective noun
Example: 1. He is a real friend.

2. But an ADJECTIVE may follow a LINKING VERB (Activity Sheet 8).

noun adjective
Example: 1. His friendship is real.

3. ADVERBS modify verbs most of the time. But they may modify adjectives or other adverbs.

adverb adjective
Examples: 1. He is a really nice friend.
("Really" is an adverb telling how nice.)

adverb adverb
2. He is going really fast.
("Really" tells how fast. "Fast" tells how he is going.)

4. ADVERBS modify ACTION VERBS.

Example: 1. He eats sensibly.
(The adverb "sensibly" modifies the action verb "eats.")

5. GOOD is an adjective that follows a linking verb such as be, look, taste, smell, feel, sound, appear, seem, grow, or become.

Examples: 1. The food tastes good.
2. Those records sound good.

6. WELL is an adverb. It describes action and follows an action verb.

Examples: 1. They march very well.
2. He swims well.

 Name _____

7. Several other adjectives are commonly misused as adverbs: real, sure, most, and near.

Examples:
1. I was really (not real) angry with Smith.
2. You were surely (not sure) early today.
3. He scored a basket almost (not most) every time.
4. I nearly (not near) missed the bus.

Instructions: You are given a choice of an adverb and an adjective in the following sentences. Decide which is correct in that sentence. Underline it with one line.

Example: 1. Diet soda tastes too (sweet, sweetly) for me.
("Tastes" is a linking verb. You need an adjective. "Sweet" is an adjective.)

1. Don't you think he dances (good, well)?
2. She feels (badly, bad) when you shout at her.
3. The soldier handles the grenade (careful, carefully).
4. The parade field looks (beautiful, beautifully).
5. We (sure, surely) had a fine time over the weekend.
6. She (most, almost) ate all of her rations before dinner.
7. I can't walk (good, well) because my leg hurts.
8. His wounded leg hurt quite (bad, badly) as he ran.
9. The prices were too (cheap, cheaply) to believe.
10. They always treat us (well, good).
11. He has a (good, well) attitude about soldiering.
12. Parachute cloth feels slippery and (smoothly, smooth).
13. The river rushed (strong, strongly) down the slope.
14. You look sloppy when you dress (carelessly, careless).
15. I am (real, really) sorry to have disturbed you.

Grammar
Activity Sheet 33A
Using Prepositions Correctly

Name _____

A PREPOSITION is a word used to show how a noun or pronoun is related to another word in the sentence. You were introduced to them on Activity Sheet 5A when you learned about finding the subject of a sentence.

By using different prepositions, you change the meaning of the sentence. You must learn to use the correct word in the correct place.

Learn to use these prepositions in the right way!

IN and INTO

1. He dived into the water.
   (He was out of the water and then he jumped into it.)
2. He dived in the water.
   (He was already standing in the water when he dived.)

Use INTO when you mean movement from one place to another.

BETWEEN and AMONG

3. Divide this box of ammo between Smith and Jones.
   (For two persons or things, use "between.")
4. Divide this box of ammo among the squad.
   (For three or more persons or things, use "among.")

FROM and OFF

5. I will borrow the fatigues from the sergeant.
   (The sergeant will hand you the fatigues. He may not be wearing them.)
6. Take the fatigues off the sergeant.
   (You will remove them or help him because he is wearing them.)
7. I borrowed the fatigues off the sergeant.
   (WRONG!)

BESIDE and BESIDES

8. He stood beside his bunk.
   ("Beside" means "next to" or "close to.")
9. Two soldiers, besides the sergeant, received letters of commendation.
   ("Besides" means "in addition to.")
10. Besides his bunk was a trunk.
    (WRONG!)

Sometimes you put extra prepositions where they are not needed. Leave them out! Never put a preposition at the end of a sentence!

11. I wonder where he is at. WRONG
    I wonder where he is. RIGHT (omit at)

Grammar
Activity Sheet 33A
Using Prepositions Correctly

Name _____

12. He fell off of the chair. ----- WRONG!
He fell off the chair. ----- RIGHT! (omit of)

13. In which bed will I sleep in? ----- WRONG!
In which bed will I sleep? ----- RIGHT! (omit in)

14. To whom should I give this to? ----- WRONG!
To whom should I give this? ----- RIGHT! (omit to)

15. For what is he crying for? ----- WRONG!
For what is he crying? ----- RIGHT! (omit for)

You need to remember one last thing. Never use OF in place of HAVE!

16. You should of come to the party. ----- WRONG!

17. You should have come to the party. ----- RIGHT!

Instructions: Some of the following sentences have mistakes in them. If a sentence has a mistake, underline the incorrect word with one line. Correct it on the line at the end of the sentence. Then mark "Wrong" in the box at the end of the sentence. If the sentence is correct as it stands, don't change it. Mark "Right" in the box at the end of the sentence.

Example:	Right	Wrong
1. The lieutenant divided the ammo between the three men. among (Use "between" for two things. The sentence talks about three men. You must use "among.")	☐	■

	Right	Wrong
1. I borrowed a few dollars off of my buddy. _____	☐	☐
2. The patrol must of been lost. _____	☐	☐
3. He reached into his duffle bag to find an old shirt. _____	☐	☐
4. Share the rations among the two of you. _____	☐	☐
5. Who, beside Smith, is going on TDY next week? _ _____	☐	☐

Grammar
Activity Sheet 33A
Using Prepositions Correctly

Name _____

	Right	Wrong
6. The sarge asked where the extra troops were at. _____	☐	☐
7. He jumped off the ridge. _____	☐	☐
8. The commander takes smart talk off nobody. _____	☐	☐
9. He sat into the office doing his work. _____	☐	☐
10. The jeep beside mine is covered with camouflage paint. _____	☐	☐

Grammar
Activity Sheet 34A
Blunders: Fragments

Name _____

A FRAGMENT is a piece of something. It can be a piece of a sentence. It may be a phrase or group of words that don't make sense. You know that a sentence must have a subject and a verb. A FRAGMENT IS MISSING EITHER A SUBJECT OR A VERB. IT MAY BEGIN WITH A CAPITAL AND END WITH A PERIOD, BUT IT DOES NOT TELL A COMPLETE THOUGHT.

Examples:

1. Hoping to hear from you soon.
   (This is a fragment. There is no subject and only part of a verb.)

2. I am hoping to hear from you soon.
   (Now it is a complete sentence.)

3. The young girl in the accident.
   (There is no verb. This is a fragment.)

4. The young girl was injured in the accident.
   (Now it is a complete sentence.)

Instructions: Look for the subject and the verb in each of these sentences. Decide if it is a sentence or a fragment. Mark "C" if it is a complete sentence. Mark "F" if it is a fragment.

		C	F
Examples: 5.	On the table at the back of the room. (This fragment is three prepositional phrases. There is no subject or verb.)	0	●
6.	Women and small children at the side of the road. (No verb.)	0	●
7.	In God we trust. ("We" is the subject. "Trust" is the verb.)	●	0
1.	About 300 meters per second.	0	0
2.	Make a target seem closer than it is.	0	0
3.	Meaning "WILL COMPLY."	0	0
4.	You say 16,000 -- "WUN SIX TOUSAND."	0	0
5.	The number of football fields between you and the target.	0	0
6.	That water is shown in blue on your map.	0	0
7.	Looking for streams to find valleys.	0	0
8.	Streams don't run along the tops of hills.	0	0

Grammar
Activity Sheet 34A
Blunders: Fragments

Name _____

		C	F
9.	Tickmarks pointing toward lower ground.	0	0
10.	The meaning of "ROGER" is included in "WILCO."	0	0
11.	Estimating range is a valuable skill.	0	0
12.	Squeezing, not jerking, the trigger.	0	0
13.	How to operate a field telephone.	0	0
14.	Reading RIGHT and UP on a map.	0	0
15.	WIDTH over RANGE times MILS.	0	0

Grammar
Activity Sheet 35A
Blunders: Run-ons

Name _____

A sentence stops with a period. If you run one sentence right on to the next sentence with a comma but no period, you have a RUN-ON SENTENCE.

A RUN-ON SENTENCE CONSISTS OF TWO OR MORE SENTENCES RUN TOGETHER AND PUNCTUATED AS IF IT WERE ONE SENTENCE.

Examples: 1. Drive very slowly, the road is icy. (Run-on)
2. Drive very slowly. The road is icy. (Correct)

Instructions: Look at each of the following sentences. If it is a run-on sentence, mark the "R". If it is a complete sentence and it is punctuated correctly, mark the "C".

		C	R
Examples: 3.	He used smoke for concealment, it covered his advance. (Run-on. Two complete sentences.)	||	||
4.	To cross over barbed wire, you put something over it. (Correct. The first part is a phrase. It is punctuated correctly.)	||	||

		C	R
1.	To go under the wire, slide headfirst under on your back.	||	||
2.	Push yourself forward, carry your weapon lengthwise.	||	||
3.	The wire slides on the weapon, it keeps the wire from catching on clothing and equipment.	||	||
4.	You inch your way along, holding the wires with one hand.	||	||
5.	Cut only the lower strands, leave the top wire in place.	||	||
6.	Roll quickly over the top of a wall, avoid going over upright.	||	||
7.	When crossing an obstacle such as a wall, use the buddy system.	||	||
8.	One man covers, one crosses.	||	||
9.	You had first checked for early warning devices attached to the wire, then you pulled the wire.	||	||
10.	You are able to move over, through, or anound any obstacles (except minefields) using these methods.	||	||

Grammar
Activity Sheet 36A
Good Usage of English

Name _____

The customary use of words or groups of words is called USAGE. Good usage is the use of acceptable language according to the rules of standard English. Good usage requires the following:

1. Right use of a word
2. Correct grammar
3. Clear language form
4. Effective form of expression
5. Acceptable style

Study the following list of words and expressions which you commonly misuse.

1. A - AN - AND

Use A in front of words beginning with a consonant sound. (He is A very good marksman.)
Use AN in front of words beginning with a vowel sound. (He is AN active member of the rifle squad.)
Use AND to join words together. (He AND I are members.)

2. ACCEPT - EXCEPT

ACCEPT means TO RECEIVE. (I will ACCEPT your offer.)

EXCEPT means TO LEAVE OUT. (Everyone EXCEPT the principal stayed after school.)

3. AFFECT - EFFECT

AFFECT means to influence or change. (Your attitude can AFFECT your job.)

EFFECT means to make happen. (The EFFECT of stepping on the brakes is to stop the car.)

4. "AIN'T"

AIN'T is not an acceptable contraction for any word in the English language!

5. ALL READY - ALREADY

ALL READY means that all people or things are prepared. (The weapons are ALL READY to be fired.)

ALREADY means previously or before. (The M16 had ALREADY been fired.)

 Name _____

6. ALL RIGHT - "ALRIGHT"

ALL RIGHT means entirely correct. (The CO expressed doubt that it would be ALL RIGHT to postpone the maneuver.)

"ALRIGHT" is not a word. Do NOT use it!

7. ALL TOGETHER - ALTOGETHER

ALL TOGETHER means in a group. (The men of the COHORT unit will complete training ALL TOGETHER.)

ALTOGETHER means completely or thoroughly. (He was not ALTOGETHER sure of his information.)

8. ALTER - ALTAR

ALTER means TO CHANGE. (You may not ALTER the address on the envelope.)

ALTAR means A STRUCTURE USED IN WORSHIP. (He walked the ten paces to get to the ALTAR in the church.)

9. ANYPLACE - EVERYPLACE - NOPLACE - SOMEPLACE

Use the word WHERE instead of PLACE. (They couldn't find the source of the lead ANYWHERE on the container.)

10. AS IF - LIKE

Use AS IF to introduce dependent clauses. (He acted AS IF he knew that particular region well.) He acted LIKE he knew... WRONG!

Use LIKE only as a prepos.tion. (A burden LIKE that is difficult for anyone to bear.)

11. AS - SO

Use AS when you compare things in a positive (good) way. (My SQT score is AS good as yours!)

Use SO when you compare things in a negative (bad) way. (But my SQT score is not SO good as Manderson's!)

12. "ANYWHERES"

"ANYWHERES" is not a word! Drop the "s."

Name _____

13. AWFULLY

Do NOT use AWFULLY in place of "very" and "exceedingly." (That guard doesn't seem VERY alert.) Do NOT say "AWFULLY alert."

14. BRIDAL - BRIDLE

BRIDAL means OF A WEDDING. (The BRIDAL party looked marvelous).

BRIDLE means HEADGEAR WITH WHICH A HORSE IS CONTROLLED. (The gentle horse had a new harness and BRIDLE.)

15. "BUSTED"

"BUSTED" is not a word. Use BURST or BROKE! (I BROKE my valuable compass.) Do NOT say "I BUSTED..."

16. CAPITOL - CAPITAL

CAPITOL is a BUILDING WHERE GOVERNMENT IS HOUSED. (Our state CAPITOL has a gold dome.)

CAPITAL is MONEY, or the CITY where the seat of government is located, or an UPPER CASE LETTER. (He has already spent the CAPITAL he had set aside.) (The CAPITAL of California is Sacramento.) (Begin each sentence with a CAPITAL letter.)

17. CELERY - SALARY

CELERY is a green vegetable. (His least favorite food is CELERY.)

SALARY is a fixed income. (Her SALARY was hardly enough to pay the rent.)

18. "COMPLECTED"

"COMPLECTED" is not a word! Use COMPLEXIONED. (The dark COMPLEXIONED person doesn't burn in the sun.)

19. "COULD OF" - COULD HAVE

"COULD OF" is NOT acceptable. (I COULD HAVE completed the task quickly.)

20. CORPS - CORPSE

CORPS (pronounced CORE) is a GROUP. (The CORPS of Engineers is having its annual meeting.)

CORPSE means DEAD BODY. (He identified the CORPSE at the morgue.)

Name _____

21. "DIFFERENT FROM" - DIFFERENT THAN

Do NOT use "DIFFERENT FROM." It is not acceptable. (My MOS is DIFFERENT FROM yours. -WRONG. Use DIFFERENT THAN.)

22. "DONE GOOD"

NEVER use this! Say "Did well." (I DID WELL on my SQT.)

23. FAMOUS - NOTORIOUS

FAMOUS means WELL-KNOWN, in a GOOD sense. (The FAMOUS scientist received a grant to study microbes.)

NOTORIOUS means WELL-KNOWN, in a BAD sense. (Jesse James was a NOTORIOUS robber.)

24. FEWER - LESS

Use FEWER with nouns that can be counted: 1, 2, 3. (Our squad has FEWER soldiers on sick call today.)

Use LESS to show a decrease in amount in nouns that cannot be counted. (There seems to be LESS absenteeism in this unit.)

25. "IN BACK OF" - BEHIND

NEVER use "IN BACK OF." (The next battalion run will begin BEHIND the barracks.)

26. LATER - LATTER

LATER means AFTERWARDS. (It is LATER than you think!)

LATTER means the SECOND OF TWO THINGS. (Of the two choices, the LATTER is better.)

27. LEAVE - LET

LEAVE means TO GO AWAY. (Jones LEAVES the office at almost the same time each day.)

LET means TO ALLOW. (Please LET me take my pillow to the field!)

28. LOSE - LOOSE

LOSE means TO MISPLACE. (He told the visitor not to LOSE the extra key.)

LOOSE means FREE or NOT ATTACHED TO SOMETHING. (Smith's LOOSE change fell from his pocket.)

Name _____

29. NO - NOT

NEVER use the word NOT in the same sentence with the word NO! NEVER use a contraction that ends in N'T in the same sentence with the word NO!

Example: 1. He hasn't no money. -- WRONG!
2. He has no money. -- RIGHT!
3. He hasn't any money. -- RIGHT!

30. "NOWHERES"

NEVER use this! Drop the "s"! (He was NOWHERE to be found!)

31. NUMBER - AMOUNT

NUMBER refers to COUNTABLE THINGS. (We had a NUMBER of difficulties to overcome.)

AMOUNT refers to QUANTITY IN BULK. (No AMOUNT of talking could make him change the subject.)

32. PRECEDE - PROCEED

PRECEDE means TO GO BEFORE. (Our squad will PRECEDE yours in the parade.)

PROCEED means TO MOVE ALONG. (We could not PROCEED on our journey because an obstacle blocked the avenue.)

33. "OFF OF"

NEVER use OFF OF! Use FROM or OFF. (The chain fell FROM the car as we were driving back.)

34. REAL - REALLY

REAL means TRUE or GENUINE. (That he almost won the baking contest was a REAL surprise to everyone.)

REALLY means VERY MUCH. (The sun was REALLY shining on that particular day.)

35. "SELDOM EVER"

Never use SELDOM and EVER together. Use RARELY! (The young recruit RARELY had money left before payday.)

36. "SOMEWHERES"

DROP the final "S"! (We hope to find the encampment SOMEWHERE over the ridge.)

 Name _____

37. THEIR - THEY'RE - THERE

Use THEIR to SHOW POSSESSION. It does NOT have an apostrophe! (They were tasting THEIR salmon that they had caught last autumn.)

Use THEY'RE to mean THEY ARE. It has an apostrophe. (THEY'RE discouraged about the expected reduction in salary.)

Use THERE to mean IN THAT PLACE. It does NOT have an apostrophe! (We waited THERE a total of nineteen hours.)

38. "TRY AND" - TRY TO

Do NOT use "TRY AND." Use TRY TO! (Please TRY TO devise a way to find the source of the information.)

39. USE - USED

USE, a noun or a verb, means the act of employing something. (Put your military training to good USE. USE your gas mask.)

USED, a verb, is the past tense of USE. (They USED to take turns at guarding the compound.)

40. WIN - BEAT

WIN refers to a game or contest. (The squad team WON the relay.)

BEAT refers to a person or a team. (Smith BEAT Jones in the playoff.) (SMITH WON Jones ..... WRONG!)

41. "WOULD OF" - WOULD HAVE

NEVER use "WOULD OF." Use WOULD HAVE. (I WOULD HAVE been content to remain in my former job.)

42. OMIT ALL UNNECESSARY WORDS!

(a) Do you think THIS (NOT THIS HERE!) is the correct answer?

(b) We expect to see THAT (NOT THAT THERE!) movie again tonight.

(c) Now I know what KIND OF (NOT KIND OF A) soldier you are!

(d) Don't you think you OUGHT (NOT HAD OUGHT!) to report for duty?

(e) None came BUT (NOT BUT ONLY!) Jones.

Grammar
Activity Sheet 36A
Good Usage of English

Name _____

Instructions: Decide which word is correct in each sentence. Use the rules of good usage. Write the correct word on the line at the end of the sentence.

Example: 1. Behind the barracks stood (their, there) basketball court. ___their___

1. Will you (precede, proceed) with your questions, please? _____
2. Would you rather have time off or a higher (celery, salary)? _____
3. The (capital, capitol) of the state is not always the largest city. _____
4. We (ought, had ought) to arrive at the checkpoint before dusk. _____
5. Did you find my wallet (somewhere, somewheres)? _____
6. You can (loose, lose) your freedoms if you don't guard them. _____
7. The horse trotted down the (bridal, bridle) path. _____
8. Jones tried (awful, awfully, very) hard to be courageous. _____
9. Is your pay voucher this month (different from, different than) last month's? _____
10. There are (less, fewer) vehicles in operable condition today. _____
11. Those field manuals are (theirs', their's, theirs). _____
12. We have (a, an, and) hour before the next class. _____
13. Everyone (accept, except) the greedy soldier was pleased with his bonus. _____
14. How will that field exercise (affect, effect) morale? _____
15. They looked (as, as if, like) they were exhausted from the training. _____
16. The sarge said it was (all right, alright) to leave early. _____
17. He had (all ready, already) adjusted the sights on his M16A1 rifle. _____
18. Life (ain't, isn't) what I thought it'd be! _____
19. The football-field method of estimating range is not (so, as) accurate as the binocular-reticle/mil-relation method. _____

Name _____

20. He is the most lightly (complected, complexioned) Indian I had ever seen. _____

21. I wish you (could of, could have) arrived a little earlier. _____

22. My commander said I (done good, did well) on the task. _____

23. The deuce-and-a-half failed to see the car (behind, in back of) it because the ground guide had remained inside the truck. _____

24. (Let, Leave) me get my work finished! _____

25. That soldier hasn't (no, any) respect for higher authority. _____

26. It is (real, really) important to be able to estimate range. _____

27. He fell (from, off of) the turret of the tank. _____

28. (Try to, Try and) complete all your duties on time. _____

29. Jones (use, used) to be the best platoon sergeant in the battalion. _____

30. Smith (would of, would have) constructed an individual fighting position but there was little time to do so. _____

31. Did he think we (had ought, ought) to construct an overhead cover? _____

32. Each man had to (alter, altar) his planned method of concealment to fit the terrain. _____

33. The (salary, celery) in the salad was limp and soggy. _____

34. The inventory included the (number, amount) of unused rounds of ammunition. _____

35. Company A (won, beat, winned) C Company in the road march. _____

36. In the last week, I have seen him (nowheres, nowhere). _____

37. (Anyplace, anywhere, anywheres) you are, you must be able to camouflage your defensive position. _____

38. They (busted, broke) out of the clearing into open fire. _____

39. He was a member of the (corps, corpse) through and through. _____

40. This commander is (famous, notorious) for his harsh discipline. _____

CHECK SHEET

Grammar
Activity Sheet 1A
Subjects: Number

		Singular	Plural
1.	PVT Jones	■	□
2.	SGT Smith	■	□
3.	private	■	□
4.	soldiers	□	■
5.	They	□	■
6.	soldier	■	□
7.	He	■	□
8.	cloth	■	□
9.	men	□	■
10.	PVT Jones	■	□
11.	We	□	■
12.	He	■	□
13.	soldiers	□	■
14.	They	□	■
15.	Everyone	■	□
16.	I	■	□
17.	one	■	□
18.	Jones	■	□
19.	soldiers	□	■
20.	He	■	□
21.	Minutes	□	■
22.	medics	□	■
23.	PVT Jones	■	□

CHECK SHEET
Grammar
Activity Sheet 2A
Action Verbs

1. determine
2. place
3. casts
4. mark
5. marks
6. moves
7. moves
8. mark
9. draw
10. shows
11. make
12. have

CHECK SHEET
Grammar
Activity Sheet 3A
Linking Verbs

1. is
2. was
3. remained
4. felt
5. look
6. tasted (delicious)
7. sounded (loud)
8. were (angry)
9. am (person)
10. became (winner)
11. remain (friends)
12. grow (longer)
13. is (friend)
14. appeared (smoky)
15. seem (tired)

CHECK SHEET
Grammar
Activity Sheet 4A
Verbs: Number

	Singular	Plural	
1.	■	□	includes
2.	□	■	put
3.	□	■	blouse
4.	■	□	pulls
5.	■	□	threads
6.	□	■	are
7.	■	□	ties
8.	□	■	go
9.	□	■	pull
10.	□	■	Use
11.	■	□	goes
12.	□	■	come
13.	■	□	ties
14.	■	□	wraps
15.	□	■	zip
16.	□	■	blouse
17.	□	■	have

CHECK SHEET

Grammar
Activity Sheet 5A
Finding a Hidden Subject

1. salute (of the soldier)
2. letters (of "SALUTE")
3. letters (in the word)
4. "S" (in the word)
5. number (of personnel)
6. Activity (of the enemy)
7. coordinates (from a known location)
8. UNIT (of the foe)
9. description (of patches or clothing)
10. markings (on vehicles)
11. TIME (of the activity)
12. EQUIPMENT (associated with the activity)
13. soldier (who is alert)
14. item (of interest expressed by the letters of the key word "SALUTE")

CHECK SHEET
Grammar
Activity Sheet 6A
Agreement: Special Subjects

		Singular	Plural
1.	soldiers vehicles make	☐	■
2.	troops truck leaves	■	☐
3.	You buddy have	☐	■
4.	Soviet Union United States is	■	☐
5.	group is	■	☐
6.	Politics was	■	☐
7.	men company receives	■	☐
8.	Mary you have	☐	■
9.	Army Air Force offer	☐	■
10.	friends I attend	☐	■

CHECK SHEET
Grammar
Activity Sheet 7A
Helping Verbs

1. must
2. must be
3. is
4. is
5. will
6. will be
7. Was
8. should
9. has been
10. had

CHECK SHEET
Grammar
Activity Sheet 8A
Action and Linking Verbs

		Action	Linking
1.	must recognize	■	||
2.	include	■	||
3.	includes	■	||
4.	has	■	||
5.	is	||	■
6.	must drink	■	||
7.	should swallow	■	||
8.	do give	■	||
9.	is	||	■
10.	drinks	■	||
11.	will come	■	||
12.	loosen	■	||
13.	raises	■	||
14.	is	||	■
15.	can be	||	■
16.	take	■	||

CHECK SHEET
Grammar
Activity Sheet 9A
Verbs: Person

		Person 1	2	3	Singular	Plural
1.	He			■	■	
2.	word "terrain"			■	■	
3.	You		■			■
4.	features			■		■
5.	We	■				■
6.	BLACK			■	■	
7.	features			■		■
8.	GREEN			■	■	
9.	RED			■	■	
10.	lines			■		■
11.	"Contour"			■	■	
12.	lines			■		■
13.	terrain			■	■	
14.	You		■			■
15.	Pvt Jones			■	■	
16.	I	■			■	
17.	Maps			■		■
18.	base			■	■	
19.	ground			■	■	
20.	ridge			■	■	

CHECK SHEET
Grammar
Activity Sheet 10A
Verbs: Tense

1. clear
2. removed
3. disassembled
4. lubricate
5. cleans
6. wipes
7. needs
8. remember
9. applied
10. used

CHECK SHEET
Grammar
Activity Sheet 11A
Regular Past Participle

	Yes	No
1.	■	□
2.	□	■
3.	■	□
4.	■	□
5.	□	■
6.	□	■
7.	■	□
8.	□	■
9.	■	□
10.	□	■

CHECK SHEET
Grammar
Activity Sheet 12A
Irregular Past and Past Participles

1. broken
2. fallen
3. gone
4. begun
5. seen
6. thrown
7. known
8. taken
9. rung
10. done
11. come
12. eaten
13. flown
15. swum
15. written
16. blew
17. swam
18. became
19. fought
20. chose
21. fell
22. broke
23. drank
24. ran
25. threw

CHECK SHEET
Grammar
Activity Sheet 13A
Verbs: Changing from Past Tense
to Past Participle

1.	fell	has fallen
2.	passed	has passed
3.	rode	has ridden
4.	completed	have completed
5.	sent	have sent
6.	hid	has hidden
7.	began	has begun
8.	chose	has chosen
9.	did	have done
10.	drove	have driven
11.	was	have been
12.	came	has come

CHECK SHEET
Grammar
Activity Sheet 14A
Confusing Verbs

1. teach
2. laid
3. set
4. rise
5. leave
6. lying
7. learned
8. let
9. sat
10. raised
11. brought
12. takes

CHECK SHEET
Grammar
Activity Sheet 15A
Subject and Verb Agreement

			Yes	No
1.	Pvt Jones	digs	■	□
2.	He	make	□	■
3.	They	camouflages	□	■
4.	You	puts clear checks	□	■
5.	You	spot	■	□
6.	They	doesn't	□	■
7.	Was	siren	■	□
8.	You	uses	□	■
9.	Doesn't	mother write	■	□
10.	Don't	you	■	□

CHECK SHEET
Grammar
Activity Sheet 16A
Agreement: "There" and "Here"

					Singular	Plural
1.	~~There~~	goes	car		■	|
2.	~~Here~~	are	Pvt Smith	SP4 Davis	|	■
3.	~~There~~	was	marker		■	|
4.	~~There~~	were	tanks		|	■
5.	~~Here~~	are	reports		|	■
6.	~~Here~~	comes	artillery		■	|
7.	~~There~~	were	soldiers		|	■
8.	~~There~~	doesn't	sergeant		■	|
9.	~~There~~	are	sides		|	■
10.	~~Here~~	is	answer		■	|

CHECK SHEET
Grammar
Activity Sheet 17A
Pronouns: Person, Number, Antecedent

		1st	2nd	3rd	Singular	Plural
1.	Children	0	0	●	0	●
2.	Smith	0	0	●	●	0
3.	manuals	0	0	●	0	●
4.	sergeant	0	0	●	●	0
5.	We	●	0	0	0	●
6.	Smith	0	0	●	●	0
7.	I	●	0	0	●	0
8.	soldiers	0	0	●	0	●
9.	Soldiers	0	●	0	0	●
10.	I	●	0	0	●	0

CHECK SHEET
Grammar
Activity Sheet 18A
Verb Agreement with Indefinite Pronouns

1.	Everybody	has
2.	Nobody	suffers
3.	Few	know
4.	Both	understand
5.	One	is
6.	Many	were
7.	Anyone	has
8.	All	were
9.	all	disappears
10.	Others	are

CHECK SHEET
Grammar
Activity Sheet 19A
Indefinite Pronouns as Antecedents

1. (One) his

2. (Several) their

3. (Few) their

4. (everyone) himself

5. (Nobody) he

6. (Many a troop) his

7. (Everybody) her

8. (Someone) his

9. (Each) he

10. (Anyone) his

CHECK SHEET
Grammar
Activity Sheet 20A
Collective Nouns as Antecedents

1. (squad) its

2. (nations) their

3. (tribe) its

4. (college) its

5. (classes) their

6. (family) its

7. (team) its

8. (herd) its

9. (school) its

10. (government) its

CHECK SHEET
Grammar
Activity Sheet 21A
Practice on Pronouns Agreeing
with Antecedents

1. their
2. its
3. his
4. his
5. its
6. his
7. his
8. he
9. his
10. his
11. its
12. their
13. her
14. its
15. his
16. his
17. their
18. his
19. its
20. his

CHECK SHEET
Grammar
Activity Sheet 22A
Pronouns Used as Subjects

		Yes	No
1.	We	●	0
2.	I	0	●
3.	they	0	●
4.	I	●	0
5.	I	0	●
6.	She	0	●
7.	he	0	●
8.	you	●	0
9.	they	●	0
10.	we	0	●

CHECK SHEET
Grammar
Activity Sheet 23A
Pronouns Used as Objects

		Yes	No
1.	them	●	0
2.	Me	0	●
3.	her	●	0
4.	Him	0	●
5.	us	●	0
6.	him	0	●
7.	them	0	●
8.	her	●	0
9.	us	0	●
10.	me	0	●

CHECK SHEET
Activity Sheet 24A
Practice on Subject and Object Pronouns

		Subject Pronouns	Object Pronouns
1.	He I	●	0
2.	me	0	●
3.	he	●	0
4.	They	●	0
5.	him	0	●
6.	me	0	●
7.	she	●	0
8.	us	0	●
9.	I	●	0
10.	They we	●	0
11.	Whom	0	●
12.	Who	●	0
13.	me	0	●
14.	them	0	●
15.	She	●	0
16.	him	0	●
17.	they	●	0
18.	She	●	0
19.	me	0	●
20.	us	0	●

CHECK SHEET
Grammar
Activity Sheet 25A
Pronouns After Prepositions

1. (to) me
2. (except) her
3. (between) him
4. (to) me
5. (behind) them
6. (among) them
7. (from) (by) her
8. (with) (from) me
9. (around) us
10. (Between) me

CHECK SHEET
Grammar
Activity Sheet 26A
Possessive Pronouns

1. theirs

2. themselves

3. yours

4. himself

5. ourselves

6. its

7. ours

8. Whose

9. Hers

10. yourselves

CHECK SHEET
Grammar
Activity Sheet 27A
Indefinite Pronouns: WHO, THAT, WHICH

			Yes	No
1.	that		■	□
2.	who	which or that	□	■
3.	that		■	□
4.	who	that or which	□	■
5.	which	who or that	□	■
6.	that		■	□
7.	which		■	□
8.	which		■	□
9.	which	who or that	□	■
10.	who	which or that	□	■

CHECK SHEET
Grammar
Activity Sheet 28A
Pronouns: Agreement

1. are (students)
2. has (sergeant)
3. are (tests)
4. (music) helps
5. (anyone) promises
6. (animals) appear
7. (soldiers) wear
8. (soldier) qualifies
9. (Azimuths) are
10. (area) looks

CHECK SHEET
Grammar
Activity Sheet 29A
Using Adjectives for Comparison

1. larger
2. most
3. slimmest
4. more normal
5. most
6. more
7. clumsier
8. denser
9. most advantageous
10. most sensible
11. less
12. worst
13. best
14. better
15. worse

CHECK SHEET
Grammar
Activity Sheet 30A
Adjectives: This/That These/Those

1. That

2. those

3. this

4. These

5. these

6. That

7. Those

8. Those

9. that

10. That

CHECK SHEET
Grammar
Activity Sheet 31A
Using Adverbs for Comparison

1. better
2. slowly
3. more carefully
4. most
5. better
6. best
7. prettier
8. worse
9. more
10. clumsily

CHECK SHEET
Grammar
Activity Sheet 32A
Confusing Adverbs and Adjectives

1. well
2. bad
3. carefully
4. beautiful
5. surely
6. almost
7. well
8. badly
9. cheap
10. well
11. good
12. smooth
13. strongly
14. carelessly
15. really

CHECK SHEET
Grammar
Activity Sheet 33A
Using Prepositions Correctly

			Right	Wrong
1.	off of	from	☐	■
2.	of	have	☐	■
3.			■	☐
4.	among	between	☐	■
5.	beside	besides	☐	■
6.	at		☐	■
7.			■	☐
8.	off	from	☐	■
9.	into	in	☐	■
10.			■	☐

CHECK SHEET
Grammar
Activity Sheet 34A
Blunders: Fragments

	C	F
1.	0	●
2.	0	●
3.	0	●
4.	●	0
5.	0	●
6.	●	0
7.	0	●
8.	●	0
9.	0	●
10.	●	0
11.	●	0
12.	0	●
13.	0	●
14.	0	●
15.	0	●

CHECK SHEET

Grammar

Activity Sheet 35A

Blunders: Run-ons

	R	C
1.	||	▮
2.	▮	||
3.	▮	||
4.	||	▮
5.	▮	||
6.	▮	||
7.	||	▮
8.	▮	||
9.	▮	||
10.	||	▮

CHECK SHEET
Grammar
Activity Sheet 36A
Good Usage of English

1. proceed
2. salary
3. capital
4. ought
5. somewhere
6. lose
7. bridle
8. very
9. different than
10. fewer
11. theirs
12. an
13. except
14. affect
15. as if
16. all right
17. already
18. isn't
19. so
20. complexioned
21. could have
22. did well
23. behind
24. Let
25. any
26. really
27. from
28. Try to
29. used
30. would have
31. ought
32. alter
33. celery
34. number
35. beat
36. nowhere
37. anywhere
38. broke
39. corps
40. notorious

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Name _____

MODULE PREVIEW/REVIEW

MATH CONCEPTS

Instructions: Choose the correct answer for each problem. Then find the answer spaces on the answer sheet. Fill in the space under the letter of the correct answer.

1. The symbol ÷ is for:
   (a) addition (c) multiplication
   (b) subtraction (d) division

2. The symbol for percent is:
   (a) % (c) ✗
   (b) / (d) +

3. The symbol = is for:
   (a) multiplication (c) percent
   (b) equals (d) subtraction

4. Which shape is the rectangle:

   (a)
   (c)
   (b)
   (d)

5. Which shape has three sides?
   (a) square (c) triangle
   (b) pentagon (d) parallelogram

6. What is the name of this shape?
   (a) rectangle (c) trapezoid
   (b) parallelogram (d) square

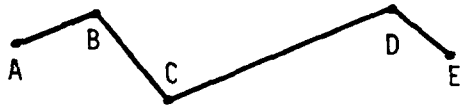
7. 5 X 3 = 3 X ☐
   (a) 3 (c) 15
   (b) 5 (d) 2

8. 8 ☐ 9 = 9 + 8
   (a) + (c) X
   (b) - (d) ÷

9. Which two kinds of math problems are <u>commutative</u>?
   (a) addition and subtraction (c) addition and multiplication
   (b) subtraction and division (d) multiplication and division

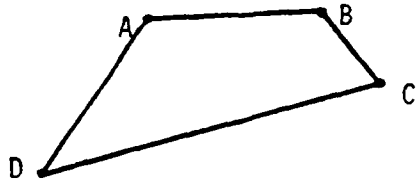
Name _____

10. Which is the longest line?



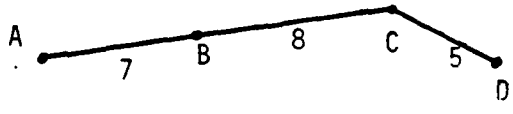
(a) AB (c) CD
(b) BC (d) DE

11. Which is the shortest line?



(a) AB (c) CD
(b) BC (d) DA

12. What is the total distance?



(a) 15 (c) 18
(b) 10 (d) 20

13. C = (a) 5 (c) 50
(b) 10 (d) 100

14. XVI = (a) 16 (c) 21
(b) 14 (d) 106

15. 412 = (a) CDXII (c) DCIXI
(b) CDIIX (d) DIXII

Answer Sheet
Module Preview/Review
Math Concepts

Name _____

	a	b	c	d
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐

ANSWER KEY/DIAGNOSTIC
Module Preview/Review
Math Concepts

Name _____

	a	b	c	d	IF WRONG, ASSIGN:
1.	☐	☐	☐	■	1
2.	■	☐	☐	☐	1
3.	☐	■	☐	☐	1
4.	☐	■	☐	☐	2
5.	☐	☐	■	☐	2
6.	☐	☐	■	☐	2
7.	☐	■	☐	☐	3
8.	■	☐	☐	☐	3
9.	☐	☐	■	☐	3
10.	☐	☐	■	☐	4
11.	☐	■	☐	☐	4
12.	☐	☐	☐	■	4
13.	☐	☐	☐	■	5
14.	■	☐	☐	☐	5
15.	■	☐	☐	☐	5

Name _____

MODULE RECORD SHEET

MATH CONCEPTS

OBJECTIVE: Recognize and use mathematical symbols, geometric shapes, commutation, and Roman numerals. Figure out lengths and perimeters of lines and shapes.

SAMPLE TEST ITEMS:

1. Which shape is the triangle?

(a)

(c)

(b)

(d)

a	b	c	d
□	□	□	■

2. XIV = (a) 104 (c) 15
(b) 14 (d) 16

a	b	c	d
□	■	□	□

INTRODUCTION TO MATH CONCEPTS:

There are some special ideas or concepts that help us to do math problems. Some of these ideas have to do with symbols or signs that tell you what to do in a math problem. Others are geometric shapes, different kinds of numbers, or ways of thinking about length and shape.

These activity sheets will teach you some math concepts that you need to know. Work through all the activity sheets that have been circled below. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the math concepts, ask to take the Math Concepts Review.

ACTIVITY SHEET

Mathematical Symbols	1A	1B
Geometric Shape Recognition	2A	2B
Commutation	3A	3B
Length and Perimeters	4A	4B
Roman Numerals	5A	5B

Math Concepts
Activity Sheet 1A
Mathematical Symbols

Name_____

In this lesson you will learn the mathematical symbols for equals, addition, subtraction, multiplication, division, and percents.

This is a list of the symbols you will learn:

EQUALS	=
ADDITION	+
SUBTRACTION	-
MULTIPLICATION	x
DIVISION	÷ or /
PERCENT	%

Study the list for a few minutes until you think you know it, then turn the page.

Math Concepts
Activity Sheet 1A (Continued)
Mathematical Symbols

Name_____

Instructions: Pick the correct answer from the four answers shown for each question. Then fill in the square in front of the correct answer on your answer sheet.

1. The symbol + is for

(a) addition
(b) subtraction
(c) division
(d) percent

2. The symbol for addition is

(a) x
(b) +
(c) ÷
(d) -

3. The symbol X is for

(a) equals
(b) addition
(c) multiplication
(d) division

4. The symbol for multiplication is

(a) -
(b) ÷
(c) +
(d) x

5. The symbol / is for

(a) equals
(b) multiplication
(c) division
(d) subtraction

6. A symbol for division is

(a) -
(b) /
(c) +
(d) x

7. The symbol = is for

(a) multiplication
(b) equals
(c) percent
(d) subtraction

8. The symbol for equals is

(a) %
(b) +
(c) =
(d) x

9. The symbol ÷ is for

(a) multiplication
(b) subtraction
(c) addition
(d) division

10. A symbol for division is

(a) +
(b) x
(c) ÷
(d) -

11. The symbol - is for

(a) equals
(b) subtraction
(c) division
(d) addition

12. The symbol for subtraction is

(a) +
(b) x
(c) ÷
(d) -

13. The symbol % is for

(a) addition
(b) multiplication
(c) percent
(d) division

14. The symbol for percent is

(a) %
(b) ÷
(c) x
(d) +

Math Concepts
Activity Sheet 1A
Mathematical Symbols

Name _____

ANSWER SHEET

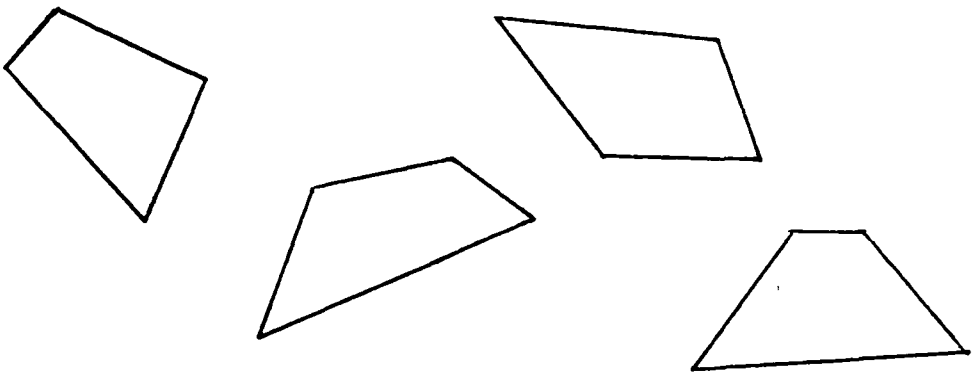
	A	B	C	D
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐

Math Concepts
Activity Sheet 2A
Geometric Shape Recognition Name_____

In this activity, you will learn to recognize these geometric shapes: trapezoid, parallelogram, rectangle, square, pentagon, triangle, and circle.

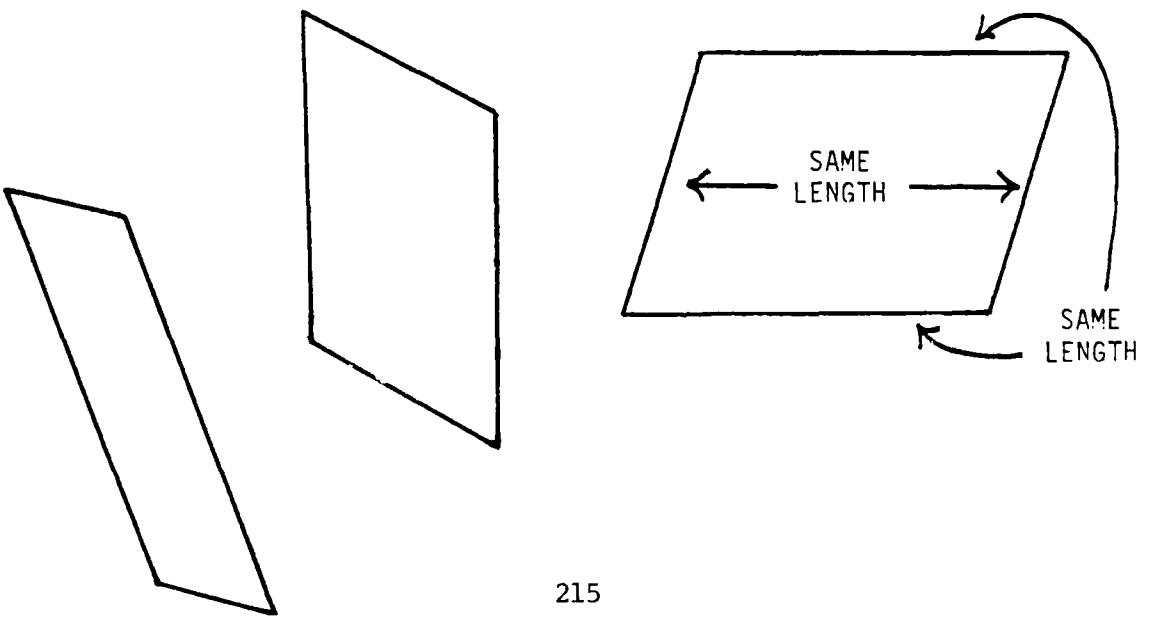
1. A trapezoid is a shape that has four straight sides and four corners. The sides can be any length. The corners can be bent at any angle.

   Trapezoids look like this:



2. The next shape is called a parallelogram. A parallelogram has parallel sides; that is, the sides are lined up with each other. Also, each pair of sides is the same length.

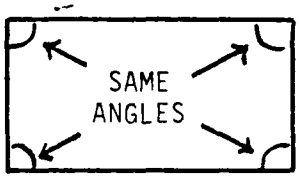
   Some parallelograms:



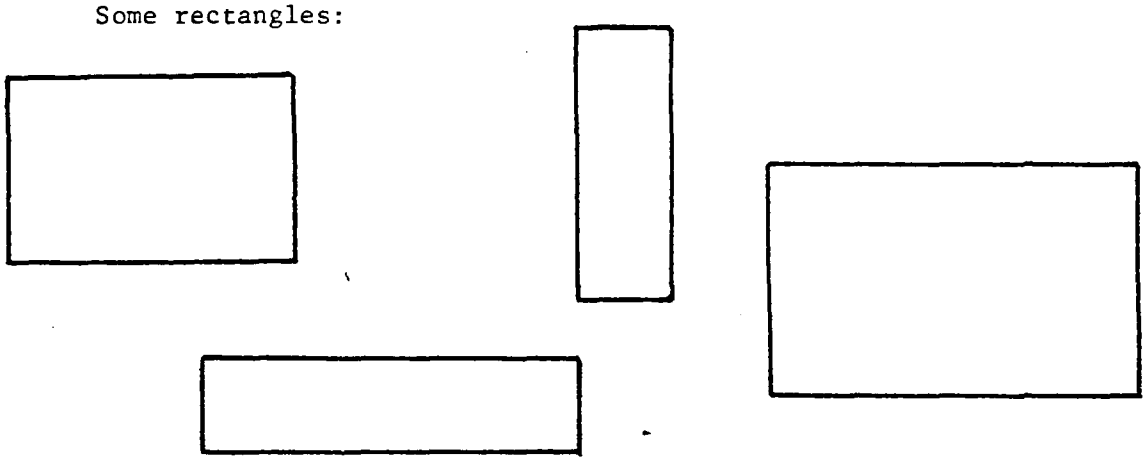
Math Concepts
Activity Sheet 2A
Geometric Shape Recognition Name_____

3. The next shape is called a rectangle. A rectangle has one characteristic that the parallelogram doesn't have. All the corners of a rectangle are bent the same. They are right angles. But the two sets of sides are different lengths.

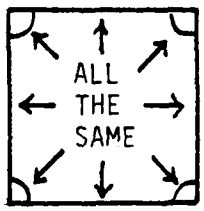
RECTANGLE



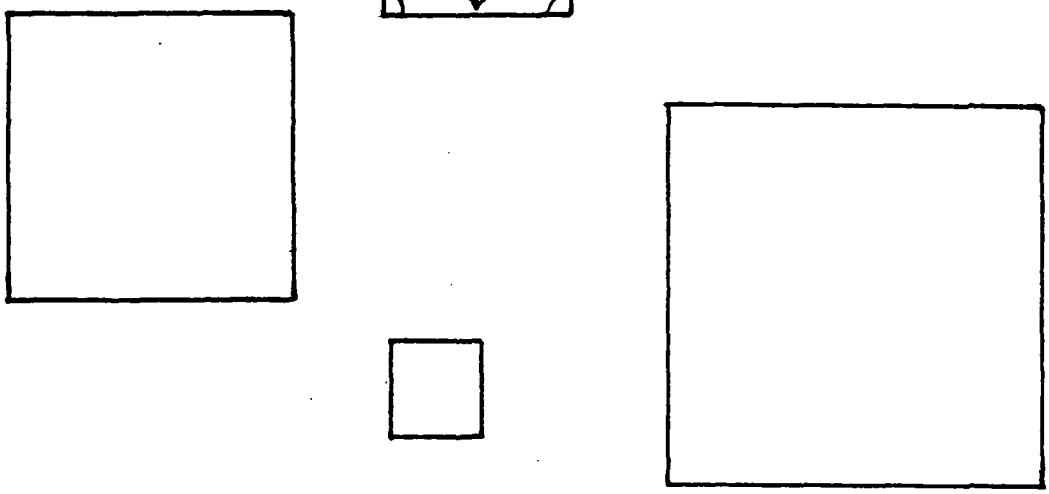
Some rectangles:



4. The next shape is called a square. A square has four equal sides and four equal corners.



Some squares:

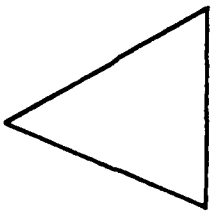


 Name_____

5. So far, all the geometric shapes you have looked at had four sides and four angles. But there are other shapes that have less or more than four sides or angles. Here are some of these other shapes:

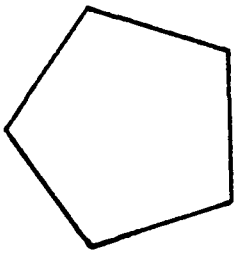
TRIANGLE

(3 sides, 3 corners)



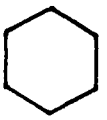
PENTAGON

(5 sides, 5 corners)



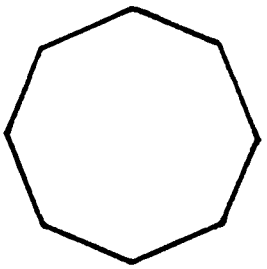
HEXAGON

(6 sides, 6 corners)



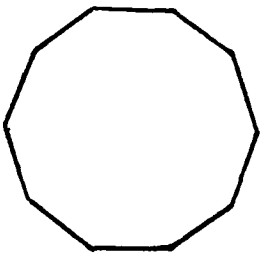
OCTAGON

(8 sides, 8 corners)



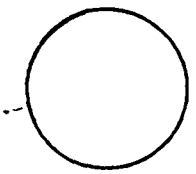
DECAGON

(10 sides, 10 corners)

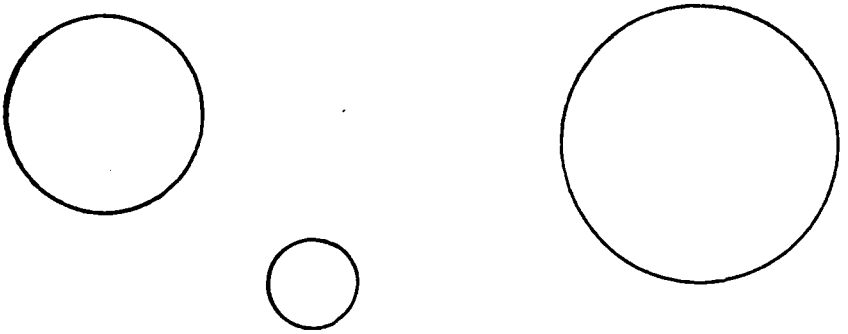


 Name_____

6. The last geometric shape you need to know doesn't have any straight sides or any angles. This shape is a circle. A circle is round, like this:



Here are some circles:

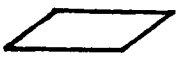


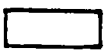
Instructions: Select the correct answer A, B, C, D. Then turn to your answer sheet and fill in the space with the letter of the answer you have picked.

Example: 0. Which shape is the rectangle?

a)

b)

c) 

d) 

From Answer Sheet:

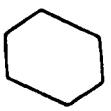
0. A B C

---

1. Which shape is the trapezoid?

a)

b)

c) 

d)

 Name_____

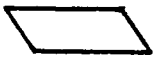
2. Which shape is the square?

a) c)

b) d)

3. Which shape is the circle?

a) c)

b) d) 

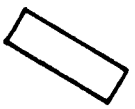
4. Which shape is the pentagon?

a) c)

b) d)

5. Which shape is the rectangle?

a) c)

b)  d)

6. Which shape has four right angles?

a) Trapezoid c) Triangle

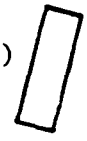
b) Square d) Pentagon

Name_____

7. Which shape is the triangle?

a)

c)

b) 

d)

8. Which shape has a triangle and a rectangle in it?

a)

c)

b)

d)

9. Which shape is the hexagon?

a)

c)

b)

d)

10. Which shape has three sides?

a) Square

c) Triangle

b) Pentagon

d) Parallelogram

11. What is the name of this shape?

a) Triangle

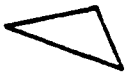
c) Trapezoid

b) Parallelogram

d) Square

 Name_____

12. What is the name of this shape?



a) Trapezoid c) Square

b) Triangle d) Pentagon

13. What is the name of this shape?

a) Rectangle c) Trapezoid

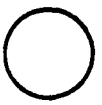
b) Parallelogram d) Square

14. What is the name of this shape?

a) Rectangle c) Trapezoid

b) Parallelogram d) Square

15. What is the name of this shape?



a) Circle c) Trapezoid

b) Square d) Pentagon

16. What is the name of this shape?

a) Parallelogram c) Trapezoid

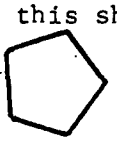
b) Rectangle d) Circle

17. Which shape does not have any angles?

a) Square c) Trapezoid

b) Parallelogram d) Circle

18. What is the name of this shape?



a) Trapezoid c) Pentagon

b) Square d) Circle

Name_____

19. How many sides does a trapezoid have?

a) three
b) four
c) five
d) six

20. How many angles are in a pentagon?

a) three
b) four
c) five
d) six

Math Concepts
Activity Sheet 2A Continued
Geometric Shape Recognition

Name_____

GEOMETRIC SHAPE RECOGNITION ANSWER SHEET

	A	B	C	D
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐
16.	☐	☐	☐	☐
17.	☐	☐	☐	☐
18.	☐	☐	☐	☐
19.	☐	☐	☐	☐
20.	☐	☐	☐	☐

Math Concepts
Activity Sheet 3A
Commutation

Name_____

Some math problems are the same whether they are written frontwards or backwards. This is called commutation. Problems that are the same frontwards or backwards are commutative.

Here are two types of math problems that are commutative. They are:

Addition problems and
Multiplication problems.

Look at these problems:

Addition	Multiplication
4 + 2 = 2 + 4	5 x 3 = 3 x 5
6 = 6	15 = 15
4 + 2 equals 6. 2 + 4 equals 6. So 4 + 2 = 2 + 4, because addition is commutative.	5 x 3 equals 15. 3 x 5 equals 15. So 5 x 3 = 3 x 5, because multiplication is commutative.

Here are two types of math problems that are not commutative:

Subtraction	Division
4 - 2 = 2 - 4	6 ÷ 3 = 3 ÷ 6
2 = (negative 2)	2 = ½
WRONG	WRONG
4 - 2 equals 2. 2 - 4 equals a negative number, -2. So 4 - 2 is not equal to 2 - 4 because subtraction is not commutative.	6 ÷ 3 equals 2. 3 ÷ 6 equals a fraction, ½. So 6 ÷ 3 is not equal to 3 ÷ 6 because division is not commutative.

Instructions: Look at the problems below. Each one is a commutative problem. Decide what is the missing number or the missing sign. Then look at the answers and choose the correct one. Mark the correct answer on your answer sheet.

Math Concepts
Activity Sheet 3A Continued
Commutation

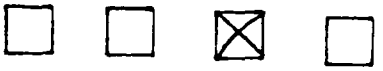
Name_____

Examples:

X. $3 + 5 = \square + 3$

a) 8 c) 5
b) 3 d) 2

A B C D



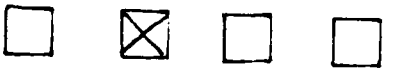
$3 + 5 =$ what $+ 3$?

Addition is commutative, so $3 + 5 = 5 + 3$.

Y. $4 \square 6 = 6 \times 4$

a) + c) -
b) x d) ÷

A B C D



4 what 6 equals 6 x 4? It can't be c) - or d) ÷, because subtraction and division are not commutative. So is it a) +, or b) x? Well, one side of the problem already has a sign.

$4 \quad 6 = 6 \times 4$

It is the multiplication sign. So, since multiplication is commutative, you know the answer is b) x, because $4 \times 6 = 6 \times 4$.

Now do these problems the same way.

1. $5 + \square = 6 + 5$

a) 5 c) 6
b) 11 d) 1

2. $\square + 10 = 10 + 8$

a) 18 c) 2
b) 8 d) 10

3. $1 \times 2 = 2 \times \square$

a) 1 c) 3
b) 2 d) 4

4. $4 \times 12 = \square \times 4$

a) 12 c) 8
b) 16 d) 4

5. $6 + \square = 3 + 6$

a) 12 c) 6
b) 9 d) 3

6. $13 \times 2 = 2 \square 13$

a) + c) x
b) - d) ÷

Math Concepts
Activity Sheet 3A Continued
Commutation

Name_____

7. 8 ☐ 9 = 9 + 8

a) + c) x
b) - d) ÷

8. 6 + 7 = 7 ☐ 6

a) + c) x
b) - d) ÷

9. 15 ☐ 13 = 13 x 15

a) + c) x
b) - d) ÷

10. 4 + 8 = 8 ☐ 4

a) + c) x
b) - d) ÷

COMMUTATION ANSWER SHEET

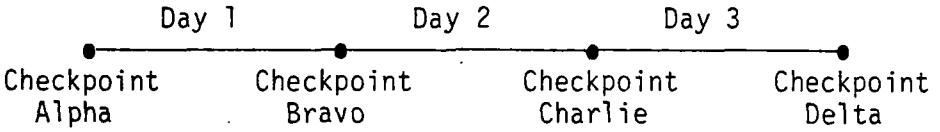
	A	B	C	D
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐

Math Concepts
Activity Sheet 4A
Length and Perimeters

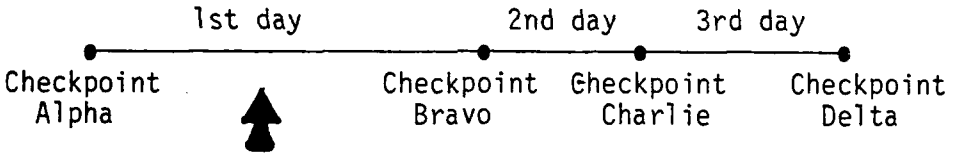
Name _____

This lesson will show you how to figure out length and distance on straight lines. It will also show you how to figure out the perimeter length of different geometric shapes.

First, let's suppose your platoon leader told you that you were going on a 3-day march across different kinds of terrain. Since you can't travel at the same pace over every type of terrain, each day's travel would be a different distance when you marked it on your map.

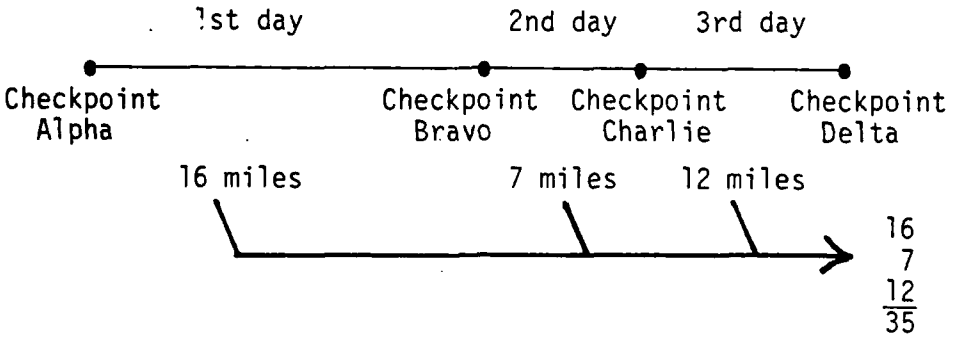


If your platoon leader asked you to tell him which day you marched the farthest, you could try to remember which day you walked the most hours or which day your feet hurt the most. But the best way to tell which day you went the farthest is to look at the map you marked each day, and pick out the longest line between two bivouac points.



In looking at your map, you will see that the line between points Alpha and Bravo (where the arrow points) is the longest, so you know that you marched the farthest on the first day. You can also see that on the 2nd day you went the shortest distance, which must have been through the roughest terrain.

Now, if you wanted to find out how many miles you walked on those three days, you would add up the lengths of those three lines on your map

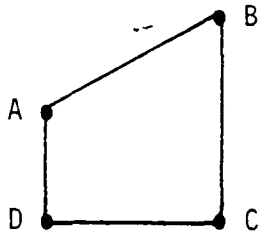


So you went 35 miles on your 3-day march.

Name_____

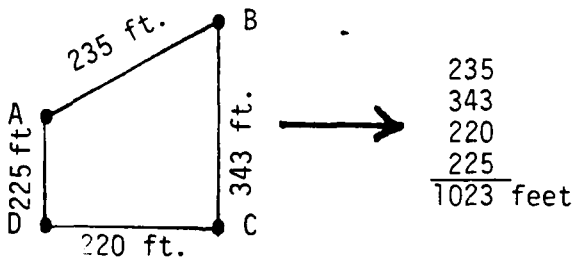
Now let's suppose you have helped set up a defense perimeter, and your platoon leader wants you to figure out which part is the longest (which would take the most men).

Here is your defense perimeter.



The part you would pick would be the line marked from B to C (Line BC) because it is the longest.

Next, your fearless leader wants to know how big a perimeter he has to defend, so he wants to know the distance around it. Guess who gets to figure that out. That's right, you volunteered again. This is done the same way as the earlier problem of finding how far you marched in 3 days. You merely add up all of the sides of your defense perimeter to get the total distance around it.

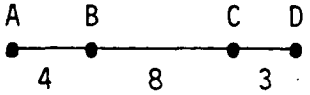


So now you can tell your platoon leader the distance around the defense perimeter is 1,023 feet.

Oops! Looks like you've volunteered again; this time to do some examples of what you've just learned.

Instructions: This is your platoon sergeant, SGT Kool. I want you to figure out the longest line for each problem, then add up all the lines to get the distance we marched or the distance around our defense perimeter.

Example:

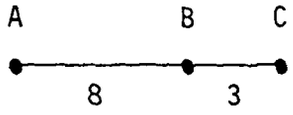


Longest Line BC

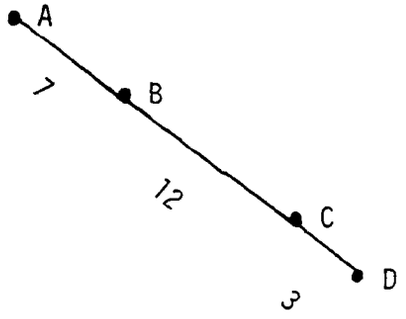
Total Distance 15

Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

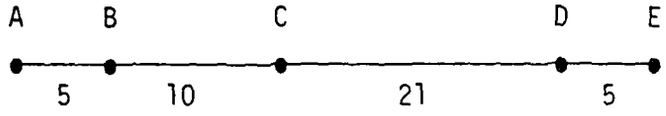
Name_____

1. 

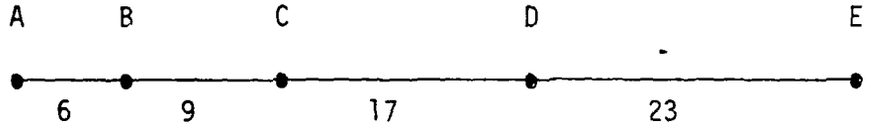
Longest Line_____
Total Distance_____

2. 

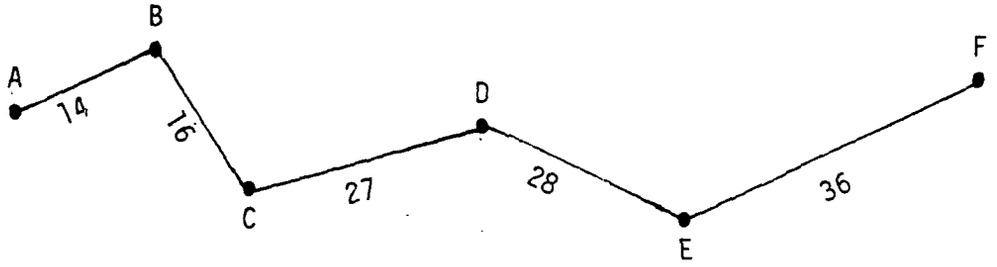
Longest Line _____
Total Distance_____

3. 

Longest Line _____
Total Distance _____

4. 

Longest Line _____
Total Distance_____

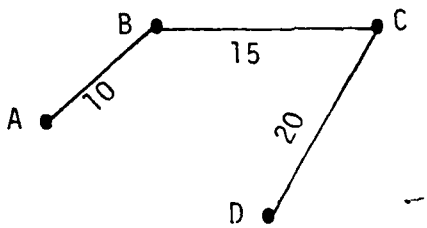
5. 

Longest Line _____
Total Distance _____

Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name_____

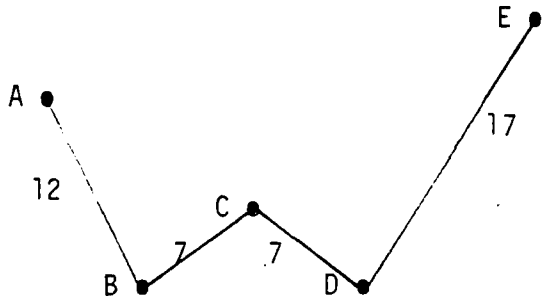
6.



Longest Line _____

Total Distance _____

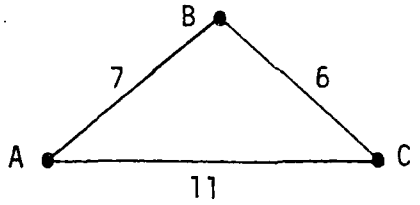
7.



Longest Line _____

Total Distance _____

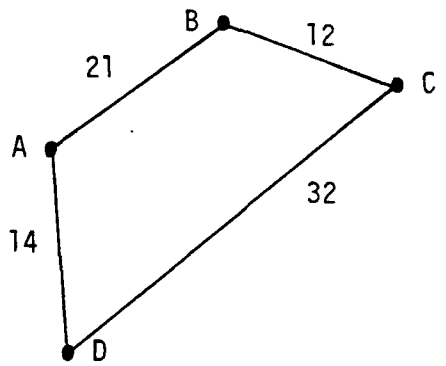
8.



Longest Line _____

Total Distance _____

9.



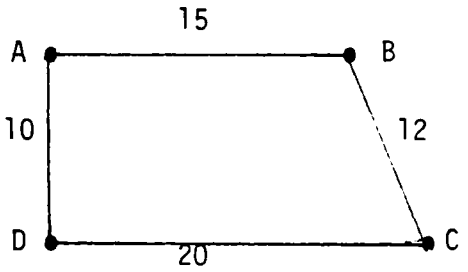
Longest Line _____

Total Distance _____

Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name _____

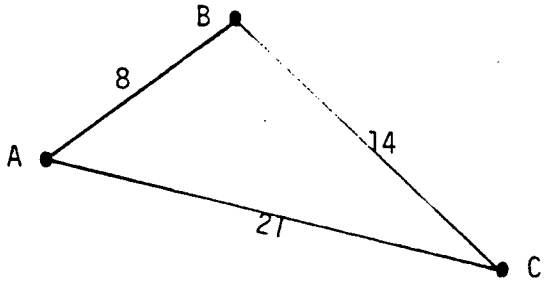
10.



Longest Line _____

Total Distance _____

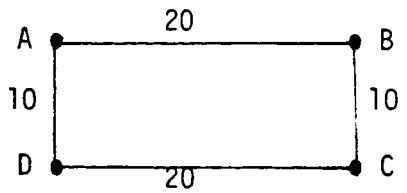
11.



Longest Line _____

Total Distance _____

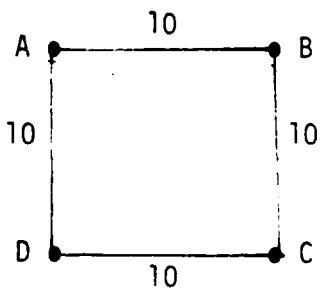
12.



Longest Lines _____

Total Distance _____

13.



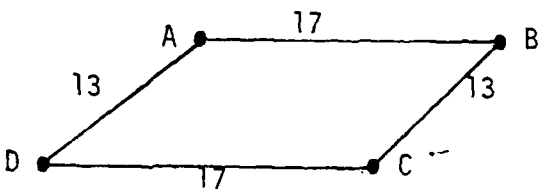
Longest Lines _____

Total Distance _____

Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name _____

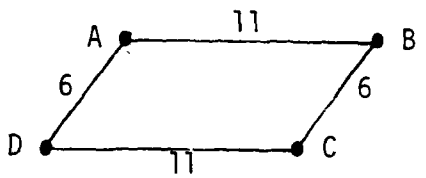
14.



Longest Lines _____

Total Distance _____

15.



Longest Lines _____

Total Distance _____

Math Concepts
Activity Sheet 5A
Roman Numerals

Name_____

The digits we use, 0 1 2 3 4 5 6 7 8 9, are called Arabic numerals. They were invented long ago by the Arabians. But there is another kind of numbering system that is sometimes used. It was invented by the Romans, and the numbers are called Roman numerals. Sometimes you will see Roman numerals used on books or in manuals. They are easy to learn and use, because they are based on simple addition.

Here are the most common Roman numerals and what they mean:

I = 1	L = 50
V = 5	C = 100
X = 10	D = 500
	M = 1000

To make numbers from Roman numerals, you just add together the different numerals to get your number.

I = 1

II = 1 + 1 = 2

III = 1 + 1 + 1 = 3

VII = 5 + 1 + 1 = 7

LXXVIII = 50 + 10 + 10 + 5 + 1 + 1 + 1 = 78

There is one trick to Roman numerals which you need to learn. You can't put more than three of the same numerals together. So how do you write, for instance, the number 4? Can't you just write IIII? No, you don't want to put more than three I's together. So instead, you write 4 as IV. This means "one-five" and you read it as "one less than five", or 4.

Whenever you put a smaller Roman numeral in front of a larger one, that means you subtract the smaller one from the larger one. Here are some examples:

IV = one less than five = 4

XL = ten less than fifty = 40

XC = ten less than one hundred = 90

CD = a hundred less than five hundred = 400

CM = a hundred less than one thousand = 900

Look at this year written in Roman numerals:

1979

MCMLXXIX

M = one thousand
CM = one hundred less than one thousand, or nine hundred
L = fifty
XX = two tens = twenty
IX = one less than ten, or nine

So this number means: one thousand plus nine hundred plus fifty plus twenty plus nine, or 1979.

Math Concepts (Continued)
Activity Sheet 5A
Roman Numerals

Name_____

Instructions: Look at the problems below. Choose the correct answer, and mark the space for the answer on your answer sheet.

Examples: LXI = a) 60 c) 61
b) 41 d) 59

a	b	c	d
○	○	●	○

32 = a) XXLII c) IIXXX
b) XIXIX d) XXXII

a	b	c	d
○	○	○	●

---

1. II = a) 1 c) 4
b) 2 d) 5

2. V = a) 100 c) 5
b) 10 d) 1

3. C = a) 100 c) 5
b) 10 d) 1

4. MCM = a) 2100 c) 1900
b) 1009 d) 2010

5. IV = a) 3 c) 5
b) 4 d) 6

6. XVIII = a) 18 c) 52
b) 12 d) 14

7. MIX = a) 1900 c) 1009
b) 1110 d) 1011

8. DX = a) 90 c) 550
b) 510 d) 400

9. XL = a) 40 c) 60
b) 50 d) 90

10. CLIX = a) 166 c) 161
b) 145 d) 159

11. 193 = a) CCXIIVC c) CXCIIV
b) CXCIII d) CCXIII

12. 81 = a) XXXLI c) VIIII
b) LXIXI d) LXXXI

13. 15 = a) XV c) IV
b) XIV d) VII

14. 29 = a) XIXII c) XXVIIII
b) XXXI d) XXIX

15. 412 = a) CDXII c) DCIXI
b) CDIIX d) DIXII

16. 1892 = a) MDCCCXCII c) MCMLXXXXII
b) MDMCXII d) MCMXCII

17. 1982 = a) MCMVIII c) MCMLXXXII
b) MCMIVII d) MCMXXCII

18. 149 = a) CXLIX c) CXXXXIX
b) CLXIX d) CXXXXVIIII

19. 317 = a) CCCXVII c) CCDXVII
b) XXCXVII d) DCCXVII

20. 998 = a) IXIXVIIIC c) CMCXVIII
b) XCXCVIII d) CMXCVIII

Math Concepts
Activity Sheet 5A
Roman Numerals
Answer Sheet

Name_____

	a	b	c	d
1.	O	O	O	O
2.	O	O	O	O
3.	O	O	O	O
4.	O	O	O	O
5.	O	O	O	O
6.	O	O	O	O
7.	O	O	O	O
8.	O	O	O	O
9.	O	O	O	O
10.	O	O	O	O
11.	O	O	O	O
12.	O	O	O	O
13.	O	O	O	O
14.	O	O	O	O
15.	O	O	O	O
16.	O	O	O	O
17.	O	O	O	O
18.	O	O	O	O
19.	O	O	O	O
20.	O	O	O	O

CHECK SHEET

Math Concepts
Activity Sheet 1A
Mathematical Symbols

Name _____

ANSWER SHEET

	A	B	C	D
1.	X			
2.		X		
3.			X	
4.				X
5.			X	
6.		X		
7.		X		
8.			X	
9.				X
10.			X	
11.		X		
12.				X
13.			X	
14.	X			

CHECK SHEET
Math Concepts
Activity Sheet 2A Continued
Geometric Shape Recognition

Name_____

GEOMETRIC SHAPE RECOGNITION ANSWER SHEET

	A	B	C	D
1.	■	□	□	□
2.	□	□	■	□
3.	□	■	□	□
4.	□	□	□	■
5.	□	■	□	□
6.	□	■	□	□
7.	□	□	■	□
8.	□	□	□	■
9.	■	□	□	□
10.	□	□	■	□
11.	□	□	□	■
12.	□	■	□	□
13.	□	□	■	□
14.	□	■	□	□
15.	■	□	□	□
16.	□	■	□	□

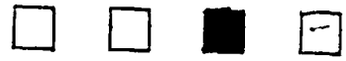
CHECK SHEET
Math Concepts
Activity Sheet 2A Continued
Geometric Shape Recognition

Name_____

GEOMETRIC SHAPE RECOGNITION ANSWER SHEET

17. A B C D

18. A B C D



19. A B C D

20. A B C D

CHECK SHEET
Math Concepts
Activity Sheet 3A Continued
Commutation

Name_____

7. 8 ☐ 9 = 9 + 8

a) + c) x
b) - d) ÷

8. 6 + 7 = 7 ☐ 6

a) + c) x
b) - d) ÷

9. 15 ☐ 13 = 13 x 15

a) + c) x
b) - d) ÷

10. 4 + 8 = 8 ☐ 4

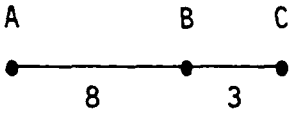
a) + c) x
b) - d) ÷

COMMUTATION ANSWER SHEET

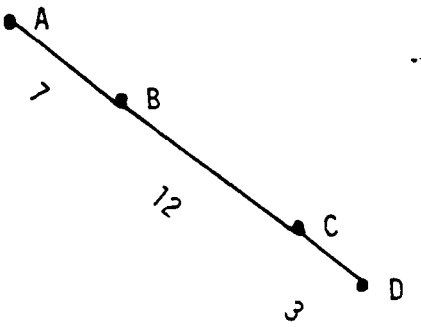
	A	B	C	D
1.	☐	☐	☒	☐
2.	☐	☒	☐	☐
3.	☒	☐	☐	☐
4.	☒	☐	☐	☐
5.	☐	☐	☐	☒
6.	☐	☐	☒	☐
7.	☒	☐	☐	☐
8.	☒	☐	☐	☐
9.	☐	☐	☒	☐
10.	☒	☐	☐	☐

Check Sheet
Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

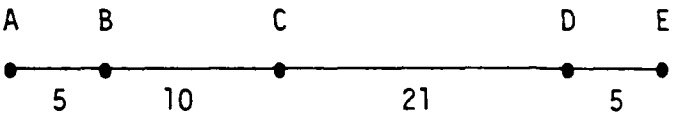
Name_____

1. 

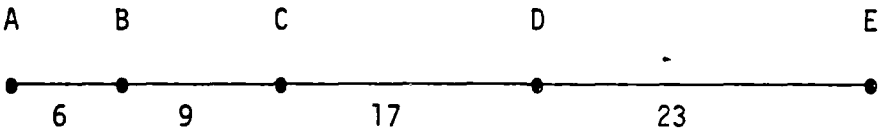
Longest Line AB
Total Distance 11

2. 

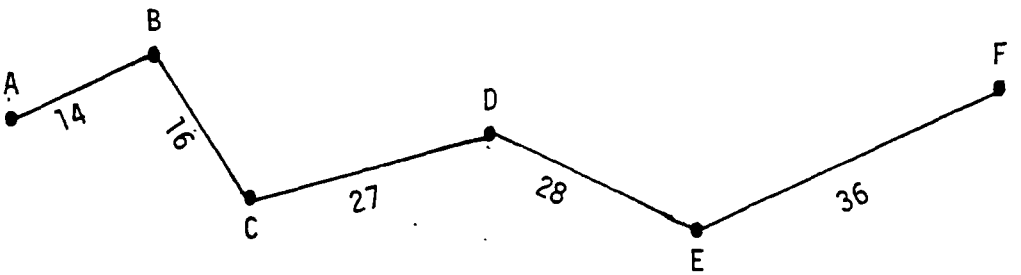
Longest Line BC
Total Distance 22

3. 

Longest Line CD
Total Distance 41

4. 

Longest Line DE
Total Distance 55

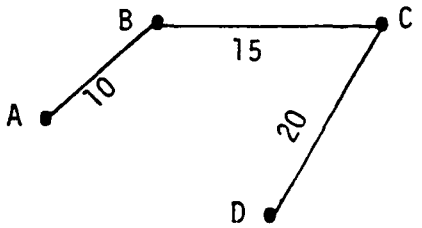
5. 

Longest Line EF
Total Distance 121

Check Sheet
Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name _____

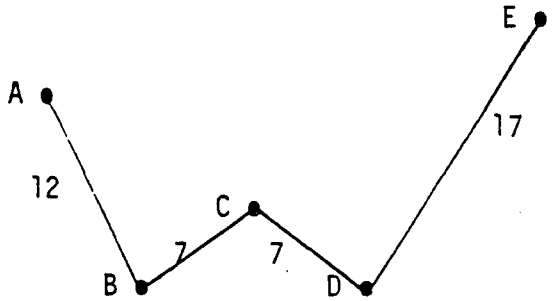
6.



Longest Line CD

Total Distance 45

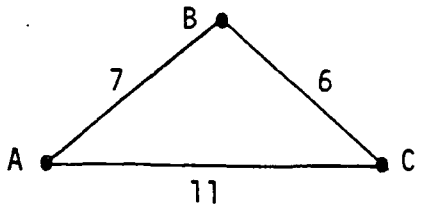
7.



Longest Line DE

Total Distance 43

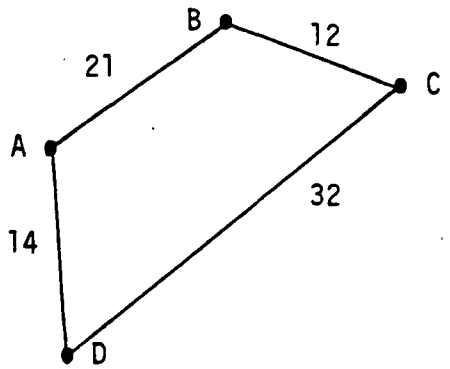
8.



Longest Line AC

Total Distance 24

9.



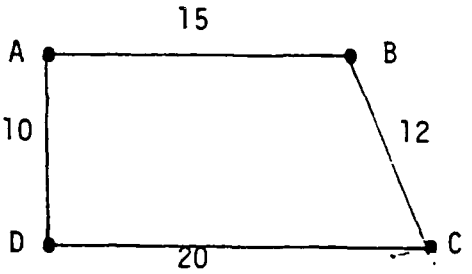
Longest Line CD

Total Distance 79

Check Sheet
Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name _____

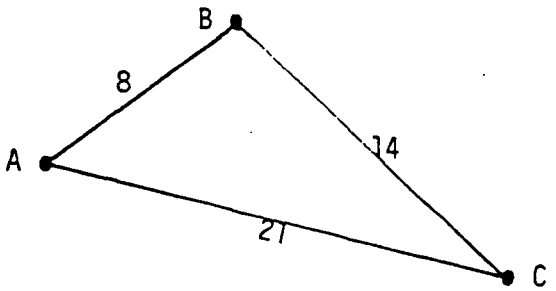
10.



Longest Line CD

Total Distance 57

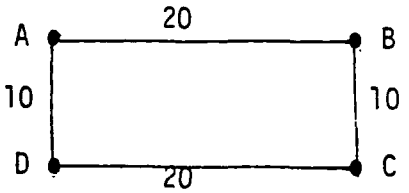
11.



Longest Line AC

Total Distance 43

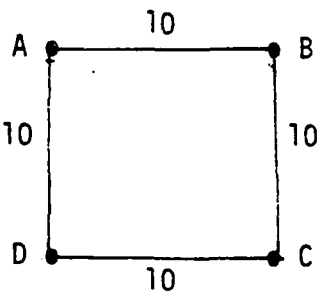
12.



Longest Lines AB and CD

Total Distance 60

13.



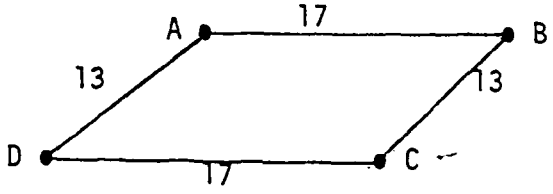
Longest Lines ALL

Total Distance 40

Check Sheet
Math Concepts (Continued)
Activity Sheet 4A
Length and Perimeters

Name _____

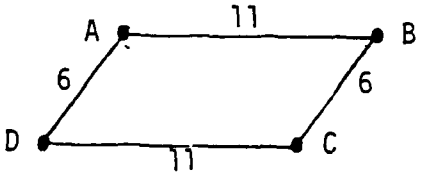
14.



Longest Lines AB and CD

Total Distance 60

15.



Longest Lines AB and CD

Total Distance 34

CHECK SHEET

Math Concepts
Activity Sheet 5A
Roman Numerals
Answer Sheet

Name_____

	a	b	c	d
1.	○	●	○	○
2.	○	○	●	○
3.	●	○	○	○
4.	○	○	●	○
5.	○	●	○	○
6.	●	○	○	○
7.	○	○	●	○
8.	○	●	○	○
9.	●	○	○	○
10.	○	○	○	●
11.	○	●	○	○
12.	○	○	○	●
13.	●	○	○	○
14.	○	○	○	●
15.	●	○	○	○
16.	●	○	○	○
17.	○	○	●	○
18.	●	○	○	○
19.	●	○	○	○
20.	○	○	○	●

Name_____

MODULE PREVIEW

WHOLE NUMBERS

Instructions: Figure out each problem below. When you have worked the problem, choose the correct answer. Then fill in the space under the letter of the correct answer on the answer sheet.

Example:

$$\begin{array}{r} 12 \\ \times\ 5 \\ \hline \end{array}$$

a) 17 c) 50
b) 60 d) 7

a	b	c	d
☐	■	☐	☐

7

1. The name of this number is:

a) seven c) one
b) five d) nine

2. In the number 8497, the "9" is in the:

a) ones place c) hundreds place
b) tens place d) thousands place

3. Which of these numbers is largest?

a) 843 c) 657
b) 799 d) 518

4. The number forty-two thousand, six hundred and seventy one is written:

a) 42,671 c) 4,206,071
b) 402,671 d) 42,000,671

5. In the number 6,492,835 which digit is in the thousands place?

a) 2 c) 6
b) 9 d) 4

6.
$$\begin{array}{r} 8 \\ +6 \\ \hline \end{array}$$

a) 9 c) 2
b) 15 d) 14

7.
$$\begin{array}{r} 7 \\ +4 \\ \hline \end{array}$$

a) 15 c) 16
b) 11 d) 12

8. 9 + 5 =

a) 14 c) 12
b) 18 d) 45

9. 6 + 7 =

a) 14 c) 17
b) 15 d) 13

10.
$$\begin{array}{r} 87 \\ +51 \\ \hline \end{array}$$

a) 36 c) 228
b) 128 d) 138

11. 43 + 41 =

a) 92 c) 85
b) 84 d) 95

12.
$$\begin{array}{r} 13 \\ +58 \\ \hline \end{array}$$

a) 98 c) 71
b) 61 d) 82

13. 78 + 59 =

a) 19 c) 148
b) 137 d) 127

14.
$$\begin{array}{r} 701 \\ +484 \\ \hline \end{array}$$

a) 1285 c) 217
b) 1185 d) 1717

Name_____

15. 978
+569

a) 1437 c) 1547
b) 1527 d) 1427

16. 135 + 599 =

a) 623 c) 724
b) 633 d) 734

17. 935
246
71
+9863

a) 11,115 c) 11,108
b) 10,904 d) 11,015

18. 11 + 84 + 78 + 8 =

a) 212 c) 176
b) 181 d) 191

19. 8
-3

a) 5 c) 11
b) 8 d) 12

20. 9 - 5 =

a) 14 c) 6
b) 5 d) 4

21. 66
-12

a) 54 c) 52
b) 78 d) 64

22. 57 - 31 =

a) 88 c) 76
b) 26 d) 37

23. 63
-48

a) 15 c) 25
b) 105 d) 115

24. 35 - 16 =

a) 28 c) 9
b) 19 d) 51

25. 701
-484

a) 217 c) 327
b) 285 d) 323

26. 8734 - 586 =

a) 9320 c) 8258
b) 8038 d) 8148

27. 3812
-156

a) 3766 c) 3666
b) 3756 d) 3656

28. 9
x5

a) 36 c) 45
b) 40 d) 14

29. 4 x 8 =

a) 16 c) 32
b) 82 d) 38

30. 41
x3

a) 123 c) 413
b) 82 d) 38

31. 81 x 7 =

a) 88 c) 458
b) 567 d) 74

32. 44
x4

a) 176 c) 166
b) 178 d) 328

Name_____

33. $\begin{array}{r} 45 \\ \times 31 \\ \hline \end{array}$

a) 13545 c) 180
b) 1385 d) 1395

34. $\begin{array}{r} 17 \\ \times 45 \\ \hline \end{array}$

a) 62 c) 765
b) 825 d) 535

35. $\begin{array}{r} 197 \\ \times 302 \\ \hline \end{array}$

a) 49,499 c) 499
b) 59,494 d) 37,384

36. $7\overline{)14}$

a) 2 c) 7
b) 4 d) 3

37. $92 \div 4 =$

a) 96 c) 23
b) 16 d) 368

38. $3\overline{)36}$

a) 11 c) 102
b) 12 d) 21

39. $75 \div 15 =$

a) 5 c) 6
b) 4 d) 15

40. $12\overline{)60}$

a) 6 c) 12
b) 9 d) 5

41. $46 \div 5 =$

a) $8\frac{4}{5}$ c) 9.1
b) $9\frac{1}{5}$ d) 8.5

42. $8\overline{)65}$

a) 8.1 c) $8\frac{1}{8}$
b) $6\frac{8}{65}$ d) 8.8

43. $569 \div 97 =$

a) $5\frac{97}{84}$ c) 5.9784
b) 5.84 d) $5\frac{84}{97}$

44. $19\overline{)594}$

a) $31\frac{5}{594}$ c) 31.5
b) 31.19 d) $31\frac{5}{19}$

45. $4371 \div 509 =$

a) $8\frac{299}{509}$ c) 8.509
b) 8.299 d) $8\frac{509}{299}$

46. $484\overline{)1009}$

a) 4.41484 c) $2\frac{48}{41}$
b) $2\frac{41}{484}$ d) 2.41

Name _____

MODULE PREVIEW

WHOLE NUMBERS

ANSWER SHEET

	a	b	c	d
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐
16.	☐	☐	☐	☐
17.	☐	☐	☐	☐
18.	☐	☐	☐	☐
19.	☐	☐	☐	☐
20.	☐	☐	☐	☐
21.	☐	☐	☐	☐
22.	☐	☐	☐	☐
23.	☐	☐	☐	☐
24.	☐	☐	☐	☐
25.	☐	☐	☐	☐
26.	☐	☐	☐	☐

Module Preview
Whole Numbers
Answer Sheet
(Continued)

Name_____

	a	b	c	d
27.	☐	☐	☐	☐
28.	☐	☐	☐	☐
29.	☐	☐	☐	☐
30.	☐	☐	☐	☐
31.	☐	☐	☐	☐
32.	☐	☐	☐	☐
33.	☐	☐	☐	☐
34.	☐	☐	☐	☐
35.	☐	☐	☐	☐
36.	☐	☐	☐	☐
37.	☐	☐	☐	☐
38.	☐	☐	☐	☐
39.	☐	☐	☐	☐
40.	☐	☐	☐	☐
41.	☐	☐	☐	☐
42.	☐	☐	☐	☐
43.	☐	☐	☐	☐
44.	☐	☐	☐	☐
45.	☐	☐	☐	☐
46.	☐	☐	☐	☐

Name_____

MODULE PREVIEW/REVIEW

WHOLE NUMBERS

ANSWER KEY/DIAGNOSTIC

	a	b	c	d	IF WRONG, ASSIGN:
1.	■	□	□	□	1,10,11
2.	□	■	□	□	1,10,11
3.	■	□	□	□	1,10,11
4.	■	□	□	□	1,10,11
5.	■	□	□	□	1,10,11
6.	□	□	□	■	2,10,11
7.	□	■	□	□	2,10,11
8.	■	□	□	□	3,10,11
9.	□	□	□	■	3,10,11
10.	□	□	□	■	4,7,10,11
11.	□	■	□	□	4,7,10,11
12.	□	□	■	□	6,7,10,11
13.	□	■	□	□	6,7,10,11
14.	□	■	□	□	8 - 11
15.	□	□	■	□	8 - 11
16.	□	□	□	■	9 - 11
17.	■	□	□	□	10,11
18.	□	■	□	□	11
19.	■	□	□	□	12,13,19 - 21
20.	□	□	□	■	12,13,19 - 21
21.	■	□	□	□	14,15,19 - 21
22.	□	■	□	□	14,15,19 - 21
23.	■	□	□	□	16,17,19 - 21
24.	□	■	□	□	16,17,19 - 21
25.	■	□	□	□	18 - 21
26.	□	□	□	■	19 - 21

Module Preview/Review
Whole Numbers
Answer Key/Diagnostic
(Continued)

Name_____

	a	b	c	d	IF WRONG, ASSIGN:
27.	☐	☐	☐	■	19 - 21
28.	☐	☐	■	☐	22,23,29
29.	☐	☐	■	☐	22,23,29
30.	■	☐	☐	☐	24,25,29
31.	☐	■	☐	☐	24,25,29
32.	■	☐	☐	☐	26,27,29
33.	☐	☐	☐	■	26,27,29
34.	☐	☐	■	☐	28,29
35.	☐	■	☐	☐	28,29
36.	■	☐	☐	☐	30,31,35,36
37.	☐	☐	■	☐	30 - 33,35,36
38.	☐	■	☐	☐	30 - 33,35,36
39.	■	☐	☐	☐	30,32,35,36
40.	☐	☐	☐	■	30,32,35,36
41.	☐	■	☐	☐	34 - 36
42.	☐	☐	■	☐	34 - 36
43.	☐	☐	☐	■	34 - 36
44.	☐	☐	☐	■	34 - 36
45.	■	☐	☐	☐	34 - 36
46.	☐	■	☐	☐	34 - 36

Name_____

MODULE RECORD SHEET

WHOLE NUMBERS

OBJECTIVE: Use addition, subtraction, multiplication, or division to find the correct answer for any problem with whole numbers.

SAMPLE TEST ITEMS:

1.	36 +48	a) 438 b) 74	c) 12 d) 84	a ☐	b ☐	c ☐	d ■
2.	18 ÷ 3 +	a) 9 b) 6	c) 3 d) 21	a ☐	b ■	c ☐	d ☐

INTRODUCTION TO WHOLE NUMBERS:

Whole numbers are numbers made out of the digits from 0 to 9. They do not include fractions or decimals. These activity sheets will show you how to add, subtract, multiply, or divide numbers that do not have fractions or decimal places. Work through all the activity sheets that have been circled below. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for whole numbers, ask to take the Whole Numbers Review.

ACTIVITY SHEETS (Do those that are circled)

ADDITION

1.	Introduction to Numbers	1A	1B
2.	Adding Two one-Digit Numbers: Columns	2A	2B
3.	Adding Two One-Digit Numbers: Rows	3A	3B
4.	Adding Two-Digit Numbers: Columns	4A	4B
5.	Adding Two-Digit Numbers: Row	5A	5B
6.	Carrying: Numbers in a Column	6A	6B
7.	Carrying: Numbers in a Row	7A	7B
8.	Adding Two Three-Digit Numbers in a Column	8A	8B
9.	Adding Two Three-Digit Numbers in a Row	9A	9B
10.	Practice Numbers in Columns: Addition	10A	10B
11.	Practice Numbers in Rows: Addition	11A	11B

SUBTRACTION

12.	Subtracting Two One-Digit Numbers: Columns	12A	12B
13.	Subtracting Two One-Digit Numbers: Rows	13A	13B
14.	Subtracting Two-Digit Numbers: Column	14A	14B
15.	Subtracting Two-Digit Numbers: Row	15A	15B

Name_____

SUBTRACTION (Continued)

16.	Borrowing: Numbers in a Column	16A	16B
17.	Borrowing: Numbers in a Row	17A	17B
18.	Subtracting Two Three-Digit Numbers in a Column	18A	18B
19.	Checking Subtraction by Adding	19A	19B
20.	Practice Numbers in Rows: Subtraction	20A	20B
21.	Practice Numbers in Columns: Subtraction	21A	21B

MULTIPLICATION

22.	Multiplying Two One-Digit Numbers: Columns	22A	22B
23.	Multiplying Two One-Digit Numbers: Rows	23A	23B
24.	Multiplying One Digit Times Two Digits: Column	24A	24B
25.	Multiplying Two-Digit Numbers: Rows	25A	25B
26.	Carrying: Numbers in a Column	26A	26B
27.	Multiplying Two-Digit Numbers	27A	27B
28.	Carrying: Two-Digit Numbers	28A	28B
29.	Multiplying Three-Digit Numbers	29A	29B

DIVISION

30.	Dividing and Multiplying are Related	30A	30B
31.	Dividing One Digit Into One or Two	31A	31B
32.	Converting from ÷ to $/\overline{\quad}$	32A	32B
33.	Dividing One Digit Into Two Digits	33A	33B
34.	Dividing One Digit Into Two with a Remainder	34A	34B
35.	Dividing Two Digits Into Three Digits	35A	35B
36.	Dividing Three Digits Into Four Digits	36A	36B

Name_____

MODULE REVIEW

WHOLE NUMBERS

Instructions: Figure out each problem below. When you have worked the problem, choose the correct answer. Then fill in the space under the letter of the correct answer on the answer sheet.

Example:

$$\begin{array}{r} 12 \\ \times\ 5 \\ \hline \end{array}$$

a) 17 c) 50
b) 60 d) 7

a	b	c	d
☐	■	☐	☐

4

1. The name of this number is:

a) four c) six
b) one d) nine

2. In the number 6,492,835 which digit is in the thousands place?

a) 4 c) 9
b) 2 d) 8

3. Which of these numbers is smallest?

a) 197 c) 400
b) 311 d) 532

4. The number sixteen thousand, eight hundred and eight is written:

a) 16,808 c) 16,000,808
b) 16,080,008 d) 168,008

5. In the number 9362, the "9" is in the:

a) thousands place c) tens place
b) hundreds place d) ones place

6.
$$\begin{array}{r} 5 \\ +8 \\ \hline \end{array}$$

a) 11 c) 15
b) 18 d) 13

7.
$$\begin{array}{r} 9 \\ +3 \\ \hline \end{array}$$

a) 11 c) 13
b) 12 d) 19

8. 8 + 6 =

a) 14 c) 15
b) 16 d) 18

9. 4 + 5 =

a) 15 c) 11
b) 8 d) 9

10.
$$\begin{array}{r} 45 \\ +33 \\ \hline \end{array}$$

a) 68 c) 88
b) 76 d) 78

11. 92 + 93 =

a) 165 c) 195
b) 185 d) 95

12.
$$\begin{array}{r} 53 \\ +37 \\ \hline \end{array}$$

a) 80 c) 90
b) 87 d) 93

13. 87 + 24 =

a) 107 c) 119
b) 111 d) 101

14.
$$\begin{array}{r} 909 \\ +435 \\ \hline \end{array}$$

a) 1234 c) 1244
b) 1344 d) 1356

Module Review
Whole Numbers
(Continued)

Name_____

15. 815
+807

a) 1627 c) 1622
b) 1707 d) 1612

16. 195 + 594 =

a) 689 c) 698
b) 729 d) 789

17. 4033
84
8768
+ 105

a) 12990 c) 12870
b) 12980 d) 12880

18. 167 + 199 + 6 + 443 =

a) 695 c) 865
b) 815 d) 955

19. 6
-4

a) 2 c) 3
b) 10 d) 7

20. 9 - 7 =

a) 5 c) 16
b) 12 d) 2

21. 45
-33

a) 12 c) 13
b) 78 d) 23

22. 96 - 15 =

a) 71 c) 111
b) 81 d) 80

23. 65
-26

a) 39 c) 49
b) 81 d) 91

24. 95 - 68 =

a) 46 c) 37
b) 27 d) 28

25. 500
-379

a) 121 c) 131
b) 221 d) 231

26. 972 - 748 =

a) 234 c) 334
b) 124 d) 224

27. 6885
- 598

a) 6397 c) 6387
b) 6297 d) 6287

28. 5
x7

a) 12 c) 35
b) 42 d) 28

29. 8 x 6 =

a) 36 c) 48
b) 14 d) 54

30. 62
x4

a) 248 c) 88
b) 66 d) 328

31. 40 x 8 =

a) 240 c) 328
b) 320 d) 288

32. 98
x6

a) 588 c) 104
b) 548 d) 102

Name_____

33. $\begin{array}{r} 37 \\ \times 51 \\ \hline \end{array}$

a) 18537 c) 222
b) 1787 d) 1887

34. $\begin{array}{r} 84 \\ \times 99 \\ \hline \end{array}$

a) 1452 c) 8316
b) 1512 d) 7986

35. $\begin{array}{r} 554 \\ \times 109 \\ \hline \end{array}$

a) 10526 c) 59956
b) 60386 d) 10096

36. $9\overline{)72}$

a) 8 c) 9
b) 6 d) 7

37. $64 \div 4 =$

a) 11 c) 16
b) 26 d) 14

38. $5\overline{)70}$

a) 52 c) 12
b) 14 d) 54

39. $77 \div 11 =$

a) 7 c) 16
b) 11 d) 10

40. $13\overline{)39}$

a) 2 c) 4
b) 9 d) 3

41. $19 \div 5 =$

a) 3.45 c) $3\frac{5}{4}$
b) $3\frac{4}{5}$ d) 3.5

42. $3\overline{)89}$

a) $29\frac{3}{9}$ c) $29\frac{2}{3}$
b) $29\frac{3}{2}$ d) 29.23

43. $929 \div 52 =$

a) $17\frac{52}{929}$ c) $17\frac{52}{45}$
b) $17\frac{929}{45}$ d) $17\frac{45}{52}$

44. $65\overline{)246}$

a) $3\frac{6}{51}$ c) 3.65
b) 3.51 d) $3\frac{51}{65}$

45. $8513 \div 313 =$

a) $27\frac{62}{313}$ c) 85.313
b) $27\frac{62}{8513}$ d) 14.928

46. $225\overline{)2706}$

a) $12\frac{225}{2706}$ c) $12\frac{6}{2706}$
b) $12\frac{6}{225}$ d) 12.6

Name_____

MODULE REVIEW

WHOLE NUMBERS

ANSWER SHEET

	a	b	c	d
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐
16.	☐	☐	☐	☐
17.	☐	☐	☐	☐
18.	☐	☐	☐	☐
19.	☐	☐	☐	☐
20.	☐	☐	☐	☐
21.	☐	☐	☐	☐
22.	☐	☐	☐	☐
23.	☐	☐	☐	☐
24.	☐	☐	☐	☐
25.	☐	☐	☐	☐
26.	☐	☐	☐	☐

Module Review
Whole Numbers
Answer Sheet
(Continued)

Name_____

	a	b	c	d
27.	☐	☐	☐	☐
28.	☐	☐	☐	☐
29.	☐	☐	☐	☐
30.	☐	☐	☐	☐
31.	☐	☐	☐	☐
32.	☐	☐	☐	☐
33.	☐	☐	☐	☐
34.	☐	☐	☐	☐
35.	☐	☐	☐	☐
36.	☐	☐	☐	☐
37.	☐	☐	☐	☐
38.	☐	☐	☐	☐
39.	☐	☐	☐	☐
40.	☐	☐	☐	☐
41.	☐	☐	☐	☐
42.	☐	☐	☐	☐
43.	☐	☐	☐	☐
44.	☐	☐	☐	☐
45.	☐	☐	☐	☐
46.	☐	☐	☐	☐

A

Whole Numbers - Addition
Activity Sheet 1A
Introduction to Numbers

Name_____

We only have ten symbols to represent numbers. These symbols are called digits, and they are:

0	1	2	3	4	5	6	7	8	9
(zero)	(one)	(two)	(three)	(four)	(five)	(six)	(seven)	(eight)	(nine)

But we have many more than ten numbers. Numbers above nine are written by putting two or more of our digits together to make a new symbol. The symbol for the number fifteen, which is written 15, uses two digits: a one (1) and a five (5).

The digit on the right represents ones. There are five ones in the number 15. The next symbol or digit to the left represents tens. There is one ten in the number 15. One ten and five ones equal 15.

The next place to the left of the tens place is called the hundreds place. The next one after that is for thousands, and so on. Each place holds ten times as much as the place to the right of it.

There are 5,280 feet in a mile. The number 5,280 means:

```
  5  thousands
+ 2  hundreds
+  8  tens
+   0 ones
-----------
= 5280
```

Here are all the number places up to the millions place:

millions	hundred thousands	ten thousands	thousands	hundreds	tens	ones
8,	7	6	5,	4	3	2

This number is eight million, seven hundred sixty-five thousand, four hundred and thirty-two. Most of the numbers you will work with in the Army aren't nearly this big, but you do need to understand how even big numbers are put together.

On the next page are some problems about number names and places. Try them out; they are really quite easy.

Whole Numbers - Addition
Activity Sheet 1A (Continued)
Introduction to Numbers: Problems

Name_____

Instructions: Read each problem below and choose the right answer from the choices given. Write the letter of the right answer on the line to the right of the problem. If you get stuck on one problem, go on to the next one and then come back to the tough ones later.

Example: The number four is written:
(a) 5 (c) 7 (e) 8
(b) 1 (d) 4

d

Write the letter of the right answer

1. The number fifteen is written:
(a) 55 (c) 51 (e) 105
(b) 15 (d) 510

1. _____

2. In the number 8497, the "7" is in the:
(a) ones place (c) hundreds place
(b) tens place (d) thousands place

2. _____

3. The name of the number "94" is:
(a) nine (c) nine hundred and four
(b) forty-nine (d) ninety-four

3. _____

4. Which of these numbers has "1" in the hundreds' place?
(a) 6291 (c) 4132
(b) 1875 (d) 2817

4. _____

5. Which of these numbers is the largest?
(a) 843 (c) 657 (e) 882
(b) 799 (d) 518

5. _____

6. In the number 6,492,835 which digit is in the thousands place?
(a) 4 (c) 2 (e) 6
(b) 9 (d) 8

6. _____

7. The number seven is written:
(a) 5 (c) 2 (e) 7
(b) 1 (d) 9

7. _____

8. Which of these numbers is smallest?
(a) 311 (c) 400 (e) 109
(b) 197 (d) 532

8. _____

9. Which of these is <u>not</u> the name of a number?
(a) seven (c) tree
(b) sixty-two (d) forty-five

9. _____

10. The number forty-two thousand, six hundred and seventy one is written:
(a) 42,671 (c) 4,206,071
(b) 402,671 (d) 42,000,671

10. _____

Whole Numbers - Addition
Activity Sheet 2A
Adding Two One-Digit Numbers: Columns

Name_____

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must add two one-digit numbers together. They are arranged in columns, that is, with one number over the other.

Instructions: Add each column of one-digit numbers and write the sum below the line.

Examples:

1	8	9
+4	+3	+0
5	11	9

3	1	7	5	1
+4	+8	+4	+8	+5
2	4	7	7	1
+5	+8	+9	+6	+0
6	3	4	7	9
+7	+3	+2	+7	+3
6	3	8	5	7
+6	+8	+6	+7	+3
8	7	0	4	0
+0	+7	+7	+6	+9
8	2	2	5	1
+4	+0	+4	+1	+5
8	1	9	2	9
+9	+1	+5	+3	+9
0	7	0	6	6
+3	+4	+4	+0	+8

Whole Numbers - Addition
Activity Sheet 3A
Adding Two One-Digit Numbers: Rows

Name_____

In these problems, the one-digit numbers are arranged in rows.

Instructions: Add each row of one-digit numbers and write the sum to the right of the equals (=) sign.

Examples: 1+4=5 8+3=11 9+0=9

1 + 5 =	1 + 0 =	9 + 3 =	7 + 3 =
0 + 9 =	1 + 6 =	9 + 9 =	6 + 8 =
6 + 0 =	2 + 3 =	5 + 1 =	4 + 6 =
5 + 7 =	7 + 7 =	7 + 6 =	5 + 8 =
7 + 4 =	7 + 9 =	4 + 2 =	8 + 6 =
0 + 7 =	2 + 4 =	9 + 5 =	0 + 4 =
7 + 4 =	1 + 1 =	2 + 0 =	7 + 7 =
3 + 8 =	3 + 3 =	4 + 8 =	1 + 8 =
3 + 4 =	2 + 5 =	6 + 7 =	6 + 6 =
8 + 0 =	8 + 4 =	8 + 9 =	0 + 3 =

Whole Numbers -- Addition
Activity Sheet 4A
Adding Two-Digit Numbers: Column

Name_____

When you have bigger numbers to add, you add them together from right to left. For instance, if you want to add

$$\begin{array}{r} 21 \\ +53 \\ \hline \end{array}$$

you must first add the right hand column, the 1 and the 3. This gives you 4 in the right-hand answer space.

$$\begin{array}{r} 21 \\ +53 \\ \hline 4 \end{array}$$

Then you add the numbers in the left-hand column. 2 + 5= 7. This gives you

$$\begin{array}{r} 21 \\ +53 \\ \hline 74 \end{array}$$

and that is the solution to the problem.

Instructions: Add the numbers in the problems on this page and write your answers below the line. Remember to add the right-hand column first.

Examples:

$$\begin{array}{r} 40 \\ +43 \\ \hline 83 \end{array} \qquad \begin{array}{r} 92 \\ +15 \\ \hline 107 \end{array} \qquad \begin{array}{r} 20 \\ +10 \\ \hline 30 \end{array}$$

41 +43	66 +61	37 +51	13 +81	20 +32
16 +72	90 +16	30 +82	12 +66	45 +33
94 +93	90 +18	62 +24	23 +12	51 +10
92 +84	90 +40	17 +90	40 +88	85 +83
46 +40	22 +43	91 +65	73 +60	60 +93
20 +92	45 +24	36 +12	81 +87	29 +70

Whole Numbers - Addition
Activity Sheet 5A
Adding Two-Digit Numbers: Row

Name_____

Adding numbers side-by-side is a little bit tricky. The numbers aren't neatly lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 21+53= ____, you first add the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 21+53= ___4 (because 1+3=4). Then add the numbers in the tens place, the 2 and the 5, and write your answer to the left of the answer you got before, like this: 21+53= __74. This is your answer.

Instructions: Add the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 40+43= 83 92+15= 107 20+10= 30

41 + 43 =	66 + 61 =	37 + 51 =	13 + 81 =
20 + 32 =	45 + 33 =	51 + 10 =	85 + 83 =
60 + 93 =	29 + 70 =	93 + 40 =	73 + 95 =
67 + 22 =	20 + 34 =	81 + 45 =	22 + 95 =
10 + 27 =	20 + 97 =	46 + 40 =	92 + 93 =
16 + 72 =	90 + 16 =	30 + 82 =	12 + 66 =
23 + 12 =	40 + 88 =	73 + 60 =	81 + 87 =
21 + 83 =	55 + 42 =	51 + 14 =	45 + 24 =

Whole Numbers - Addition
Activity Sheet 6A
Carrying: Numbers in a Column

Name_____

When the numbers in a column you are adding add up to more than 9, you have a two-digit answer. It won't fit into one column in the answer space. You need to "carry" the first digit over and add it onto the next column to the left. For example, in the problem

$$\begin{array}{r} 37 \\ +56 \\ \hline \end{array}$$

7 plus 6 equals 13. There is not enough space to fit the 13 under the ones column in the problem.

But since 13 is the same as a ten and three ones, you can take the "1" in the tens place and add it to the top of the tens column in the problem, like this:

$$\begin{array}{r} \textcircled{1} \\ 37 \\ +56 \\ \hline 3 \end{array}$$

Now you can go ahead and add the tens column up and finish the problem. The finished problem will look like this:

$$\begin{array}{r} \textcircled{1} \\ 37 \\ +56 \\ \hline 93 \end{array}$$

Instructions: Add the numbers in the problems on these pages, and carry over numbers to the next column when you need to.

Examples:

$$\begin{array}{r} \textcircled{1} \\ 24 \\ +19 \\ \hline 43 \end{array} \qquad \begin{array}{r} \textcircled{1} \\ 86 \\ +58 \\ \hline 144 \end{array} \qquad \begin{array}{r} \textcircled{1} \\ 59 \\ +33 \\ \hline 92 \end{array}$$

(You don't have to draw the lines to show that you carried a number up to the top of the next column; just put the number up there.)

65 +26	84 +99	68 +43	87 +17	35 +56
59 +28	17 +45	53 +37	26 +25	15 +27
66 +55	99 +54	13 +47	15 +35	34 +67
99 +14	16 +89	41 +29	65 +97	39 +93

Whole Numbers - Addition
Activity Sheet 6A, Continued
Carrying: Numbers in a Column

Name_____

55 +97	66 +24	25 +98	87 +24	67 +83
45 +67	48 +56	87 +29	59 +51	69 +46
62 +18	57 +73	49 +44	65 +48	78 +59
56 +87	98 +96	14 +37	88 +64	54 +29

Whole Numbers - Addition
Activity Sheet 7A
Carrying: Numbers in a Row

Name_____

When your problem is arranged in a row, you don't have a nice handy column for the number you carried to go above. You can put that number above the proper digit in the first number of the problem, like this:

$$\overset{1}{37} + 56 = \underline{\quad 3}$$

The 1 represents a ten, so be sure you put it above a number which is in a tens place. Then when you add the numbers in the tens places, don't forget to add the number you carried over!

$$\overset{1}{37} + 56 = \underline{93}$$ because 7 + 6 = 13 and you carried the 1, then 1 + 3 + 5 = 9.

Instructions: Add the numbers in the problems on this page, and carry numbers back to the proper place whenever you need to.

Examples: $\overset{1}{24} + 19 = 43$ $\overset{1}{86} + 58 = 144$ $\overset{1}{59} + 33 = 92$

35 + 56 =	15 + 27 =	34 + 67 =	39 + 93 =
67 + 83 =	69 + 46 =	78 + 59 =	54 + 29 =
88 + 64 =	65 + 48 =	59 + 51 =	87 + 24 =
65 + 97 =	15 + 35 =	26 + 25 =	87 + 17 =
68 + 43 =	53 + 37 =	13 + 47 =	41 + 29 =
25 + 98 =	87 + 29 =	49 + 44 =	14 + 37 =
98 + 96 =	57 + 73 =	48 + 56 =	66 + 24 =

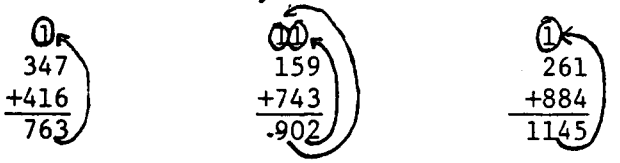
Whole Numbers - Addition
Activity Sheet 8A
Adding Two Three-Digit Numbers in a Column

Name_____

In these problems you are adding bigger numbers. You may have to carry over numbers to the next column. In some problems you may have to carry over numbers twice - once to the tens column and once to the hundreds column.

Instructions: Add the numbers on this page and put the answers below the line. Carry over numbers whenever you need to.

Examples:



(You don't have to draw the lines to show you carried the numbers.)

197 +217	834 +635	391 +566	554 +109	909 +435
854 +834	592 +102	225 +270	101 +117	345 +302
506 +954	714 +785	523 +929	379 +500	978 +569
195 +594	813 +804	590 +491	357 +920	368 +822
658 +246	505 +327	342 +122	701 +484	320 +465
108 +994	135 +599	131 +206	760 +939	268 +182

Whole Numbers - Addition
Activity Sheet 9A
Adding Two Three-Digit Numbers in a Row

Name_____

Here are some problems where you may have to carry over numbers from one part of the answer back to the beginning of the problem. Solve them like you did using two-digit numbers, except that you may have to carry twice.

Instructions: Add the numbers in the problems on this page, and carry numbers back to the proper place when you need to.

Examples:

$$\begin{array}{r} {\scriptstyle 1} \\ 347 \\ +\ 416 \\ \hline 763 \end{array} \qquad \begin{array}{r} {\scriptstyle 11} \\ 159 \\ +\ 743 \\ \hline 902 \end{array} \qquad \begin{array}{r} {\scriptstyle 1} \\ 261 \\ +\ 884 \\ \hline 1145 \end{array}$$

368 + 822 =	197 + 217 =	322 + 665 =	658 + 246 =
357 + 920 =	834 + 635 =	303 + 140 =	505 + 327 =
590 + 491 =	391 + 566 =	216 + 153 =	342 + 122 =
813 + 804 =	554 + 109 =	290 + 619 =	701 + 484 =
195 + 594 =	909 + 435 =	494 + 928 =	320 + 465 =
978 + 569 =	854 + 834 =	310 + 842 =	108 + 994 =
379 + 500 =	592 + 102 =	251 + 404 =	135 + 599 =
523 + 929 =	225 + 270 =	646 + 978 =	131 + 206 =

Whole Numbers - Addition
Activity Sheet 10A
Practice Numbers in Columns: Addition

Name_____

Try your skill now at adding all kinds of problems in columns. Sometimes you will have to carry numbers, and sometimes you will not.

Instructions: Add the numbers in the problems on this page, and put your answers below the lines. Sometimes you will need to carry numbers. Write the numbers you carry above the proper columns.

Examples:

$$\begin{array}{r} 241 \\ +56 \\ +\ 2 \\ \hline 299 \end{array} \qquad \begin{array}{r} {\scriptstyle 1\,1} \\ 642 \\ +879 \\ \hline 1521 \end{array} \qquad \begin{array}{r} {\scriptstyle 1} \\ 1086 \\ +105 \\ +807 \\ \hline 1998 \end{array}$$

(You don't have to draw the lines to show you carried a number.)

3 76 +33	71 4 + 5	795 888 + 9	51 18 +11	2 97 +31
981 + 15	100 + 6	175 +446	610 + 3	6854 + 131
130 903 + 14	468 166 + 23	633 688 +460	972 748 + 57	556 545 +920
3 60 +87	56 3 + 6	324 380 + 8	34 24 + 0	11 69 +85
780 290 51 +565	11 84 78 + 8	38 13 5 +72	167 199 6 +442	1 30 2 +41
4371 6885 509 + 86	156 3035 29 +3812	445 34 15 +695	1009 578 1 +809	181 484 87 +126
271 8902 2110 + 16	531 938 6285 + 3	4033 84 8768 + 105 270	935 246 54 +9469	63 313 8513 + 157

Whole Numbers - Addition
Activity Sheet 11A
Practice Numbers in Rows: Addition

Name_____

Here are several problems arranged in rows for you to try. Sometimes you will have to carry numbers and sometimes you will not.

Instructions: Add the numbers in the problems on this page, and put your answers to the right of the equals sign. Sometimes you will need to carry numbers. Write the numbers you carry above the proper place in the first number of the problem.

Examples: 241+56+2= 299   11
642+879= 1521   1
1086+105+807= 1998

84 + 22 =	689 + 29 =	14 + 290 =
68 + 92 =	353 + 86 =	3 + 76 + 33 =
2 + 97 + 31 =	6854 + 131 =	556 + 545 + 920 =
11 + 69 + 85 =	1 + 30 + 2 + 41 =	51 + 18 + 11 =
610 + 3 =	972 + 748 + 57 =	34 + 24 + 0 =
167 + 199 + 6 + 443 =	795 + 888 + 9 =	175 + 446 =
633 + 688 + 460 =	324 + 380 + 8 =	38 + 13 + 5 + 72 =
71 + 4 + 5 =	100 + 6 =	468 + 166 + 23 =
56 + 3 + 6 =	11 + 84 + 78 + 8 =	156 + 3035 + 29 =
891 + 15 =	130 + 903 + 14 =	3 + 60 + 87 =

S

Whole Numbers - Subtraction
Activity Sheet 12A
Subtracting Two One-Digit Numbers: Columns

Name_____

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must subtract two one-digit numbers from each other. They are arranged in columns, that is, with one number over the other.

Instructions: Subtract each column of one-digit numbers from each other and write the difference below the line.

Examples:

4	8	9
-1	-3	-0
3	5	9

4	8	7	8	5
-3	-1	-4	-5	-1
5	8	9	7	1
-2	-4	-7	-6	-0
7	3	4	7	9
-6	-3	-2	-7	-3
6	8	8	7	7
-6	-3	-6	-5	-3
8	7	7	6	9
-0	-7	-0	-4	-0
8	2	4	5	5
-4	-0	-2	-1	-4
9	1	9	3	9
-8	-1	-5	-2	-9
3	7	4	6	8
-0	-4	-0	-0	-6

Whole numbers - Subtraction
Activity Sheet 13A
Subtracting Two One-Digit Numbers: Rows

Name_____

In these problems, the one-digit numbers are arranged in rows.

Instructions: Subtract the second number from the first number and write the difference to the right of the equals (=) sign.

Examples: 4-1=3 8-3=5 9-0=9

5 - 1 =	1 - 0 =	9 - 3 =	7 - 3 =
9 - 0 =	6 - 1 =	9 - 9 =	8 - 6 =
6 - 0 =	3 - 2 =	5 - 1 =	6 - 4 =
7 - 5 =	7 - 7 =	7 - 6 =	8 - 8 =
7 - 4 =	9 - 7 =	4 - 2 =	8 - 6 =
7 - 0 =	4 - 2 =	9 - 5 =	4 - 0 =
6 - 4 =	1 - 1 =	2 - 0 =	7 - 7 =
8 - 3 =	3 - 3 =	8 - 4 =	8 - 1 =
4 - 3 =	5 - 2 =	7 - 6 =	6 - 6 =
8 - 0 =	8 - 4 =	7 - 4 =	3 - 0 =

Whole Numbers - Subtraction
Activity Sheet 14A
Subtracting Two-Digit Numbers: Column

Name_____

When you have bigger numbers to subtract, you subtract them from each other from right to left. For instance, if you want to subtract

$$\begin{array}{r} 53 \\ -21 \\ \hline \end{array}$$

you must first subtract the right hand column, the 3 and the 1. This gives you 2 in the right-hand answer space.

$$\begin{array}{r} 53 \\ -21 \\ \hline 2 \end{array}$$

Then you subtract the numbers in the left-hand column. 5 - 2 = 3. This gives you

$$\begin{array}{r} 53 \\ -21 \\ \hline 32 \end{array}$$

and that is the solution to the problem.

Instructions: Subtract the numbers in the problems on this page and write your answers below the line. Remember to subtract the right-hand column first.

Examples:

$$\begin{array}{r} 43 \\ -40 \\ \hline 3 \end{array} \qquad \begin{array}{r} 95 \\ -12 \\ \hline 83 \end{array} \qquad \begin{array}{r} 20 \\ -10 \\ \hline 10 \end{array}$$

43 -41	66 -61	57 -31	83 -11	32 -20
76 -12	96 -10	82 -30	66 -12	45 -33
94 -93	98 -35	64 -22	23 -12	51 -10
94 -82	90 -40	97 -35	88 -40	85 -83
46 -40	43 -22	95 -61	73 -60	93 -60
92 -20	45 -24	36 -12	87 -81	79 -26

Whole Numbers - Subtraction
Activity Sheet 15A
Subtracting Two-Digit Numbers: Row

Name_____

Subtracting numbers side-by side is a little bit tricky. The numbers aren't neatly lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 53-21= ____, you first subtract the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 53-21= ___2 (because 3-1=2). Then subtract the numbers in the tens place, the 5 and the 2, and write your answer to the left of the answer you got before, like this: 53-21= 32. This is your answer.

Instructions: Subtract the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 73-42= 31 95-12= 83 20-10= 10

43 - 41 =	66 - 61 =	57 - 31 =	83 - 11 =
32 - 20 =	45 - 33 =	51 - 10 =	85 - 83 =
93 - 60 =	79 - 26 =	93 - 40 =	95 - 73 =
67 - 22 =	34 - 23 =	85 - 41 =	95 - 22 =
27 - 10 =	97 - 20 =	46 - 40 =	93 - 92 =
76 - 12 =	96 - 15 =	82 - 30 =	66 - 12 =
23 - 12 =	88 - 40 =	73 - 60 =	87 - 81 =
83 - 21 =	55 - 42 =	54 - 13 =	45 - 24 =

Whole Numbers - Subtraction
Activity Sheet 16A
Borrowing: Numbers in a Column

Name_____

When the top number in any column is smaller than the bottom number, you need to make the top number bigger. You do this by borrowing from the first column to the left.

For instance, in the problem:

```
 53
-37
```

7 is larger than 3, so you can't subtract it. But remember, the "5" in the number 53 is really 5 tens. So you can borrow one set of ten from 5, and that leaves 4 in the tens place.

```
  4
 ~~5~~3
-37
```

Next, add the ten you borrowed to the 3 in the ones place, and you get 13.

```
  4 13
 ~~5~~ ~~3~~
-37
 16
```

Now, 13-7=6, and 4-3 = 1. Your answer is 16.

Look at this problem:

```
 24
-19
```

You can't subtract 9 from 4. So you borrow ten ones from the tens place and add it to the 4. Then subtract. 14-9 = 5, and 1-1 = 0. (Remember, you don't have to write down the 0 if it is the first digit in a number.)

```
 1 14
 ~~2~~ ~~4~~
-19
  5
```

Instructions: Subtract the numbers in the problems on these pages. Borrow numbers from the next column when you need to.

Examples:

```
  7 16          4 13
 ~~8~~ ~~0~~   ~~5~~ ~~3~~
-58           -39
 28            14
```

65 -26	94 -89	63 -48	87 -18	55 -36
58 -29	45 -17	53 -37	35 -26	25 -17
65 -56	94 -59	43 -17	34 -16	64 -37

Whole Numbers - Subtraction
Activity Sheet 16A, Continued
Borrowing: Numbers in a Column

Name_____

94 -19	86 -19	41 -29	95 -67	93 -34
95 -57	64 -26	95 -26	84 -27	83 -67
67 -49	56 -48	87 -29	61 -59	66 -48
62 -18	73 -57	57 -49	65 -48	78 -59
86 -57	91 -64	34 -17	80 -64	54 -29

Whole Numbers - Subtraction
Activity Sheet 17A
Borrowing: Numbers in a Row

Name _____

When your problem is arranged in a row, you don't have a nice handy column for the number you carried to go above. You can put that number above the proper digit in the last number of the problem like this:

4 16
$\not{5}\not{0}$ - 37 = 9

The 1 represents a ten, so be sure you put it with the number which is in the ones place. Then when you subtract numbers in the ones place, don't forget to subtract the 1 you carried over from the tens place!

4 16
$\not{5}\not{0}$ - 37 = 19

Instructions: Subtract the numbers in the problems on this page, and carry numbers back to the proper place whenever you need to.

Examples: 1 14 $\not{2}\not{4}$ - 19 = 5 7 16 $\not{8}\not{0}$ - 58 = 28 4 13 $\not{5}\not{3}$ - 39 =14

56 - 37 =	25 - 17 =	64 - 37 =	93 - 38 =
83 - 67 =	66 - 49 =	78 - 59 =	54 - 29 =
84 - 68 =	65 - 48 =	51 = 49 =	84 - 27 =
95 - 68 =	35 - 16 =	36 - 27 =	87 - 18 =
63 - 48 =	53 - 37 =	43 - 17 =	41 - 29 =
95 - 28 =	87 - 29 =	64 - 47 =	34 - 17 =
68 - 39 =	73 - 57 =	56 - 48 =	64 - 26 =

Whole Numbers - Subtraction
Activity Sheet 18A
Subtracting Two Three-Digit Numbers in a Column

Name_____

In these problems you are subtracting bigger numbers. You may have to borrow 10 from the next column. In some problems you may have to borrow twice - once from the tens column and once from the hundreds column.

Instructions: Subtract the numbers on this page and put the answers below the line. Borrow whenever you need to.

Examples:

3~~0~~ 10 16	6~~3~~ 13 13	
~~4~~~~7~~~~6~~	~~7~~~~4~~~~3~~	884
-347	-159	-261
69	584	623

217	834	566	554	909
-197	-635	-391	-109	-435
854	592	270	117	345
-834	-102	-225	-101	-302
954	785	929	500	978
-506	-714	-523	-379	-569
594	813	590	920	822
-195	-804	-491	-357	-368
658	505	342	701	465
-246	-327	-122	-484	-320
994	599	206	939	268
-108	-135	-131	-760	-182

Whole Numbers - Subtraction
Activity Sheet 19A
Checking Subtraction by Adding

Name _____

One of the simplest ways to check subtraction is to add the answer to the bottom number of the problem and see if it adds up to the top number:

$$\begin{array}{r} 7 \\ -5 \\ \hline 2 \end{array} \qquad \begin{array}{r} 7 \\ \hline 5 \\ +2 \end{array}$$

As you can see, you subtract ↓ DOWN; but you add ↑ UP to see if your subtraction was correct. When you add up to check your subtraction and the top number is different than the original top number, you need to re-do your subtraction.

Check these subtraction problems by adding up ↑ :

$$\begin{array}{r} 7 \\ -3 \\ \hline 5 \end{array} \qquad \begin{array}{r} ? \\ \hline 3 \\ +5 \end{array}$$

3 + 5 = 8, not 7, so the problem was wrong.

$$\begin{array}{r} 10 \\ -\ 2 \\ \hline 8 \end{array} \qquad \begin{array}{r} ? \\ \hline 8 \\ +2 \end{array}$$

8 + 2 = 10, which is the top number, so this problem was correct.

Instructions: Check the subtraction problems on this page by adding ↑ up. If a problem is wrong, cross out the wrong answer and write the correct answer below it.

Examples:

$$\begin{array}{r} 128 \\ -\ 99 \\ \hline 29 \end{array}$$ (this answer was right - no correction needed)

$$\begin{array}{r} 1028 \\ -\ 879 \\ \hline \cancel{159}\ 149 \end{array}$$ (this answer was wrong, so it was corrected)

$$\begin{array}{r} 65 \\ -\ 26 \\ \hline 39 \end{array} \qquad \begin{array}{r} 7 \\ -6 \\ \hline 2 \end{array} \qquad \begin{array}{r} 99 \\ -\ 84 \\ \hline 15 \end{array} \qquad \begin{array}{r} 10 \\ -\ 4 \\ \hline 7 \end{array}$$

$$\begin{array}{r} 104 \\ -\ 68 \\ \hline 46 \end{array} \qquad \begin{array}{r} 212 \\ -144 \\ \hline 68 \end{array} \qquad \begin{array}{r} 44 \\ -18 \\ \hline 26 \end{array} \qquad \begin{array}{r} 17 \\ -\ 8 \\ \hline 9 \end{array}$$

$$\begin{array}{r} 16 \\ -14 \\ \hline 3 \end{array} \qquad \begin{array}{r} 26 \\ -10 \\ \hline 16 \end{array} \qquad \begin{array}{r} 48 \\ -19 \\ \hline 39 \end{array} \qquad \begin{array}{r} 144 \\ -122 \\ \hline 22 \end{array}$$

$$\begin{array}{r} 898 \\ -146 \\ \hline 742 \end{array} \qquad \begin{array}{r} 72 \\ -38 \\ \hline 34 \end{array} \qquad \begin{array}{r} 99 \\ -66 \\ \hline 33 \end{array} \qquad \begin{array}{r} 196 \\ 78 \\ \hline 118 \end{array}$$

Whole Numbers - Subtraction
Activity Sheet 19A, Continued
Checking Subtraction by Adding

1183 - 647 536	6139 -4350 1789	43 -16 27	7172 -1691 5461
13 - 9 4	89 -42 47	723 -418 205	1 -1 1

Whole Numbers - Subtraction
Activity Sheet 20A
Practice Numbers in Rows: Subtraction

Name _____

Here are several problems arranged in rows for you to try. Sometimes you will have to borrow numbers and sometimes you will not.

Instructions: Subtract the numbers in the problems on this page, and put your answers to the right of the equals sign. Sometimes you will need to borrow numbers. Write the numbers you get when you borrow above the proper number of the problem.

Examples: $\overset{1\ 13\ 11}{2\ 4\ 1} - 56 = 185$ $\quad 879 - 642 = 237$ $\quad \overset{\quad 7\ 16}{1\ 0\ 8\ 6} - 807 = 279$

84 - 22 =	689 - 29 =	290 - 14 =
92 - 68 =	353 - 86 =	76 - 33 =
97 - 31 =	6854 - 131 =	556 - 545 =
85 - 69 =	41 - 33 =	51 - 18 =
610 - 183 =	972 - 748 =	34 - 24 =
443 - 167 =	888 - 799 =	446 - 175 =
688 - 633 =	380 - 324 =	72 - 38 =
71 - 4 =	100 - 6 =	468 - 23 =
56 - 36 =	84 - 78 =	3035 - 29 =
891 - 15 =	903 - 14 =	8734 - 586 =

Whole Numbers - Subtraction
Activity Sheet 21A
Practice Numbers in Columns: Subtraction

Name _____

Try your new skill at subtracting all kinds of problems in columns. Sometimes you will have to borrow and sometimes you will not.

Instructions: Subtract the numbers in the problems on this page, and put your answers below the lines. Sometimes you will need to borrow. Write the numbers you get when you borrow above the proper columns.

Examples:

$$\begin{array}{r} {\scriptstyle 1\ 13\ 11} \\ 2\not{4}\not{1} \\ -\ 5\ 6 \\ \hline 1\ 8\ 5 \end{array} \qquad \begin{array}{r} 8\ 7\ 9 \\ -\ 6\ 4\ 2 \\ \hline 2\ 3\ 7 \end{array} \qquad \begin{array}{r} {\scriptstyle 7\ 16} \\ 1\ 0\not{8}\not{6} \\ -\ 8\ 0\ 7 \\ \hline 2\ 7\ 9 \end{array}$$

76 -33	71 - 4	888 - 95	18 -11	97 -31
981 - 15	100 - 6	446 -175	610 -183	6854 - 131
903 - 14	468 -166	688 -460	748 - 57	556 -545
871 - 93	56 - 3	387 - 98	34 -24	85 -69
290 - 51	84 -74	38 -13	442 -199	41 -33
6885 - 598	3812 - 156	695 - 37	1009 - 578	484 - 87
8902 -2110	939 - 99	4033 -1324	321 -123	313 -157

Whole Numbers - Multiplication
Activity Sheet 22A
Multiplying Two One-Digit Numbers: Columns

Name _____

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must multiply two one-digit numbers together. They are arranged in columns, that is, with one number over the other.

Instructions: Multiply each column of one-digit numbers and write the answer below the line.

Examples:

1	8	9
x4	x3	x0
4	24	0

1 x 5	1 x 8	7 x 4	5 x 8	1 x 5
0 x 9	4 x 8	7 x 9	7 x 6	1 x 0
6 x 7	3 x 3	4 x 2	7 x 7	9 x 3
6 x 6	3 x 8	8 x 6	5 x 7	7 x 3
8 x 0	7 x 7	0 x 7	4 x 6	0 x 9
8 x 4	2 x 0	2 x 4	5 x 1	1 x 5
8 x 9	1 x 1	9 x 5	2 x 3	9 x 9
0 x 3	7 x 4	0 x 4	6 x 0	6 x 8

Whole Numbers - Multiplication
Activity Sheet 23A
Multiplying Two One-Digit Numbers: Rows

Name _____

In these problems, the one-digit numbers are arranged in rows.

Instructions: Multiply each row of one-digit numbers and write the answer to the right of the equals (=) sign.

Examples: 1 x 4 = 4 8 x 3 = 24 9 x 0 = 0

1 x 5 =	1 x 0 =	9 x 3 =	7 x 3 =
0 x 9 =	1 x 6 =	9 x 9 =	6 x 8 =
6 x 0 =	2 x 3 =	5 x 1 =	4 x 6 =
x 7 =	7 x 7 =	7 x 6 =	5 x 8 =
7 x 4 =	7 x 9 =	4 x 2 =	8 x 6 =
0 x 7 =	2 x 4 =	9 x 5 =	0 x 4 =
7 x 4 =	1 x 1 =	2 x 0 =	7 x 7 =
3 x 8 =	3 x 3 =	4 x 8 =	1 x 8 =
3 x 4 =	2 x 5 =	6 x 7 =	6 x 6 =
8 x 0 =	8 x 4 =	8 x 9 =	0 x 3 =

Whole Numbers - Multiplication
Activity Sheet 24A
Multiplying one Digit Times Two Digits: Column

Name _____

When you have bigger numbers to multiply, you multiply them together from right to left. For instance, if you want to multiply:

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline \end{array}$$

you must first multiply the right hand column, the 1 and the 3. This gives you 3 in the right-hand answer space.

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline 3 \end{array}$$

Then you multiply the number on the bottom right times the number in the left hand column. 2 x 3 = 6. This gives you:

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline 63 \end{array}$$

and that is the solution to the problem.

Instructions: Multiply the numbers in the problems on this page and write you answers below the line. Remember to multiply the right-hand column first.

Examples:

$$\begin{array}{r} 40 \\ \times\ 3 \\ \hline 120 \end{array} \qquad \begin{array}{r} 92 \\ \times\ 3 \\ \hline 276 \end{array} \qquad \begin{array}{r} 20 \\ \times\ 7 \\ \hline 140 \end{array}$$

$$\begin{array}{r} 41 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 66 \\ \times\ 1 \\ \hline \end{array} \qquad \begin{array}{r} 37 \\ \times\ 1 \\ \hline \end{array} \qquad \begin{array}{r} 13 \\ \times\ 1 \\ \hline \end{array} \qquad \begin{array}{r} 20 \\ \times\ 2 \\ \hline \end{array}$$

$$\begin{array}{r} 14 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 90 \\ \times\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 30 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 11 \\ \times\ 6 \\ \hline \end{array} \qquad \begin{array}{r} 45 \\ \times\ 1 \\ \hline \end{array}$$

$$\begin{array}{r} 93 \\ \times\ 3 \\ \hline \end{array} \qquad \begin{array}{r} 90 \\ \times\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 62 \\ \times\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 23 \\ \times\ 2 \\ \hline \end{array} \qquad \begin{array}{r} 51 \\ \times\ 0 \\ \hline \end{array}$$

$$\begin{array}{r} 92 \\ \times\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 90 \\ \times\ 4 \\ \hline \end{array} \qquad \begin{array}{r} 71 \\ \times\ 9 \\ \hline \end{array} \qquad \begin{array}{r} 40 \\ \times\ 8 \\ \hline \end{array} \qquad \begin{array}{r} 83 \\ \times\ 3 \\ \hline \end{array}$$

Whole Numbers - Multiplication
Activity Sheet 24A
Multiplying Two-Digit Numbers: Column (Continued)

46 x 0	22 x 3	91 x 5	73 x 0	60 x 3
20 x 2	42 x 4	34 x 2	81 x 7	92 x 4

Whole Numbers - Multiplication
Activity Sheet 25A
Multiplying Two-Digit Numbers: Rows

Name _____

Multiplying numbers side-by-side is a little bit tricky. The numbers aren't lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 21 x 3 = _____, you first multiply the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 21 x 3 = ___3___ (because 1 x 3 = 3). Then multiply your right-hand number times the number in the tens place, the 3 times the 2 and write your answer to the left of the answer you got before, like this: 21 x 3 = __63__. This is your answer.

Instructions: Multiply the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 40 x 3 = 120 92 x 4 = 368 20 x 0 = 0

41 x 3 =	66 x 1 =	37 x 1 =	13 x 1 =
20 x 2 =	42 x 3 =	51 x 0 =	83 x 3 =
60 x 3 =	92 x 4 =	93 x 0 =	73 x 3 =
64 x 2 =	20 x 4 =	81 x 5 =	22 x 4 =
10 x 7 =	20 x 7 =	46 x 0 =	92 x 3 =
14 x 2 =	90 x 6 =	30 x 2 =	12 x 4 =
23 x 2 =	40 x 8 =	73 x 0 =	81 x 7 =
21 x 3 =	54 x 2 =	51 x 4 =	42 x 4 =

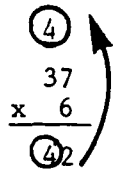
Whole Numbers - Multiplication
Activity Sheet 26A
Carrying: Numbers in a Column

Name _____

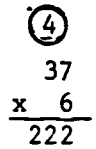
When the numbers in a column you are multiplying come to more than 9, you have a two-digit answer. It won't fit into one column in the answer space. You need to "carry" the first digit over and add it onto the column to the left. For example, in the problem:

$$\begin{array}{r} 37 \\ \times\ 6 \\ \hline \end{array}$$

7 times 6 equals 42. There is not enough space to fit the 42 under the ones column in the problem. But since 42 is the same as four tens and two ones, you can take the "4" in the tens place and add it to the top of the tens column in the problem like this:



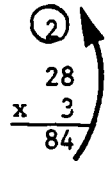
Now you multiply the 6 times the 3, and add the 4 that you carried over. 6 x 3 = 18, and 18 + 4 = 22. So you put the 22 next to the answer you got in the ones place, and it looks like this:



(6 x 7 = 42, put down the 2 and carry the 4, 6 x 3 = 18, add the 4 and it equals 22. Your answer is 222.)

Now look at how this problem is solved:

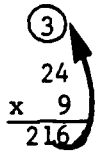
$$\begin{array}{r} 28 \\ \times\ 3 \\ \hline \end{array}$$

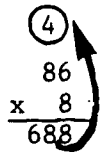


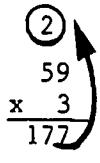
(3 x 8 = 24, put down the 4 and carry the 2, 3 x 2 = 6, add the 2 you carried and it equals 8. Your answer is 84.)

Instructions: Multiply the numbers in the problems on the following page, and carry over numbers to the next column when you need to.

Examples:







(Your don't have to draw the lines to show that you carried a number up to the top of the next column; just put the number there.)

Whole Numbers - Multiplication
Activity Sheet 26A
Carrying: Numbers in a Column (Continued)

Name _____

54 x 9	38 x 4	14 x 7	98 x 6	56 x 7
72 x 9	65 x 8	44 x 4	57 x 3	62 x 8
69 x 6	59 x 2	87 x 9	48 x 6	45 x 7
67 x 3	87 x 4	25 x 8	66 x 4	55 x 7
39 x 3	65 x 7	43 x 9	16 x 8	99 x 4
34 x 7	15 x 5	13 x 7	99 x 4	66 x 5
15 x 7	26 x 5	53 x 7	17 x 5	59 x 8
35 x 6	87 x 7	68 x 3	84 x 9	65 x 6

Whole Numbers - Multiplication
Activity Sheet 27A
Multiplying Two-Digit Numbers

Name _____

When you are multiplying two numbers and the bottom number is only one digit long, you have plenty of space to put your answer right under the line. For example:

```
  32
x  3
 96
```

(3 x 2 = 6, and 3 x 3 = 9)

But if the bottom number is more than one digit long, where do you put the answer?

```
  32
x 43
 96
  ?
```

(because 3 x 2 = 6, and 3 x 3 = 9, but what do you do with the "4" in the bottom number?)

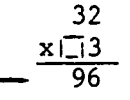
Remember, a two-digit number has one number in the ones place and one number in the tens place. In the number 43, the number in the ones place is 3, and the number in the tens place is 4. If you want to multiply a number by 43, it is the same as multiplying it by 3 ones and 4 tens. It is like two problems in one, so you need more than one place to put your answer.

Here's how it happens:

```
  32
x 43
```

First, multiply the top number, 32, by the number on the bottom that is in the ones place. This number is 3. You have done this kind of problem before. (Forget the 4.)

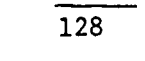
```
Tens Ones
  32
x 43
 96
```



```
  32
x□3
 96
```

Next, multiply the top number by the bottom number that is in the tens place. This number is 4. (Forget the 3.)

```
Tens Ones
  32
x 43
 96
128
```



```
  32
x 4□
128
```

Put your answer in line under the 4, not under the 3.

Put your "tens" answer underneath your "ones" answer: put the 128 under the 96. Remember to line up the tens answer under the tens place.

Name _____

```
  32
x 43
  96
128
1376
```

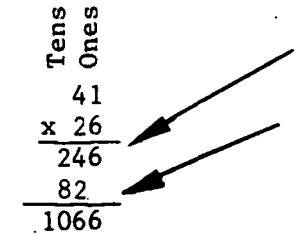
Next, all you have to do is add the two answers together. Add the columns straight down, and from the right. (6 + nothing = 6, 9 + 8 = 17, put down the 7 and carry the 1, 2 + the 1 carried equals 3, and 1 + nothing = 1.) Your answer is 1376.

That was easy. Now work through this problem, step by step:

```
  41
x 26
```

First, multiply 41 by the bottom number in the ones place, which is 6.

41 x 6 = 246



Put the answer in the ones place.

Next, multiply 41 by the bottom number in the tens place, which is 2.

41 x 2 = 82

Put the answer in the tens place.

Now just add the answers straight down, from right to left. 6 + nothing = 6, 4 + 2 = 6, 2 + 8 = 10. The answer is 1066.

Whole Numbers - Multiplication
Activity Sheet 27A (Continued)
Multiplying Two-Digit Numbers

Name _____

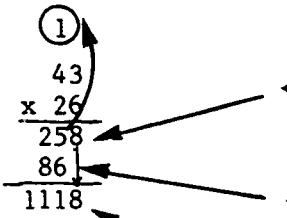
Instructions: Multiply the numbers in the problems below. Make sure you line up the "ones" answer under the ones place, and the "tens" under the tens place, then add them straight down.

41 x 43	66 x 61	37 x 51	13 x 81	20 x 32
14 x 72	90 x 16	30 x 82	11 x 66	45 x 31
93 x 93	90 x 18	62 x 24	23 x 12	51 x 10
92 x 84	90 x 44	71 x 29	40 x 88	83 x 83
46 x 40	22 x 43	91 x 65	73 x 62	60 x 93
20 x 92	42 x 24	34 x 12	81 x 87	92 x 74

Whole Numbers - Multiplication
Activity Sheet 28A
Carrying: Two Digit Numbers

Name _____

In the last two worksheets you learned how to multiply two digit numbers, and how to carry numbers over to the next columns. For a lot of problems, you will have to do both things. Here is an example:

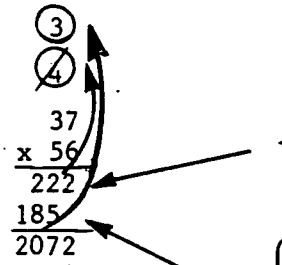


6 x 3 = 18, put down the 8 and carry the 1. 6 x 4 = 24, plus the 1 you carried = 25. Your "ones" answer is 258.

2 x 3 = 6, and 2 x 4 = 8. Your "tens" answer is 86.

8 + nothing = 8, 5 + 6 = 11, put down the 1 and carry a 1, 2 + 8 + the 1 you carried = 11. Your final answer is 1118.

Now work through this problem, step by step:



6 x 7 = 42, put down the 2 and carry the 4. 6 x 3 = 18, plus the 4 you carried = 22. Your "ones" answer is 222.

5 x 7 = 35, put down the 5 and carry the 3. (You could erase the old "4" you carried before or cross it out.) 5 x 3 = 15, plus the 3 you just now carried = 18. Your "tens" answer is 185.

2 + nothing = 2, 2 + 5 = 7, 2 + 8 = 10, put down the 0 and carry the 1, 1 + the 1 you carried = 2. Your final answer is 2072.

Instructions: Multiply the numbers in the problems on these pages. Make sure you line up the answers correctly. Remember to carry numbers over to the next column when you need to.

65 x 26	84 x 99	68 x 43	87 x 17	35 x 56
59 x 28	17 x 45	53 x 37	26 x 25	15 x 27

Whole Numbers - Multiplication
Activity Sheet 28A (Continued)
Carrying: Two Digit Numbers

Name _____

65 x 55	99 x 54	13 x 47	15 x 35	34 x 67
99 x 14	16 x 89	41 x 29	65 x 97	39 x 93
55 x 97	66 x 24	25 x 98	87 x 24	67 x 83
45 x 67	48 x 56	87 x 29	59 x 51	69 x 46
62 x 18	57 x 73	49 x 44	65 x 48	78 x 59
56 x 87	98 x 96	14 x 37	88 x 64	54 x 29

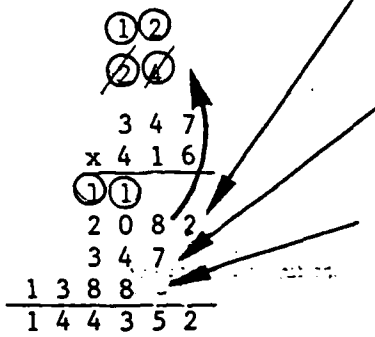
Whole Numbers - Multiplication
Activity Sheet 29A
Multiplying Three Digit Numbers

Name _____

In these problems you are multiplying bigger numbers. You may have to carry numbers over to the next column. Also, you need to do the problem in three steps:

(1) multiply the ones place
(2) multiply the tens place
(3) multiply the hundreds place

Work through this example step by step:



6 x 7 = 42, write down the 2 and carry the 4. 6 x 4 = 24 plus the 4 you carried = 28, write down 8 and carry 2. 6 x 3 = 18 plus the 2 you carried = 20. Your "ones" answer is 2082

1 x 7 = 7. 1 x 4 = 4. 1 x 3 = 3. Your "tens" answer is 347.

4 x 7 = 28, write down 8 and carry 2. 4 x 4 = 16, plus the 2 you carried = 18, write down 8 and carry 1. 4 x 3 = 12 plus the 1 you carried = 13. Your "hundreds" answer is 1388.

2 + nothing = 2. 8 + 7 = 15, write down 5 and carry 1. 8 + 4 plus the 1 you carried = 13, put down the 3 and carry the 1. 2 + 3 + 8 plus the 1 you carried = 14, put down the 4 and carry the 1. 3 + the 1 you carried = 4. 1 + nothing = 1. Your final answer is 144352.

Instructions: Multiply the numbers on this page. Make sure you line up the answers correctly. Remember to carry numbers over to the next column when you need to.

197 x 217	834 x 635	391 x 566	554 x 109	909 x 435
854 x 834	592 x 102	225 x 270	101 x 117	345 x 302

Whole Numbers - Multiplication
Activity Sheet 29A
Multiplying Three Digit Numbers (Continued)

Name _____

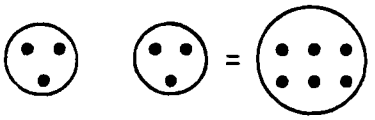
506 x 954	714 x 785	523 x 929	379 x 500	978 x 569
195 x 594	813 x 804	590 x 491	357 x 920	368 x 822
658 x 246	505 x 327	342 x 122	701 x 484	320 x 465
108 x 994	135 x 599	131 x 206	760 x 939	268 x 182

Whole Numbers - Division
Activity Sheet 30A
Dividing and Multiplying are Related

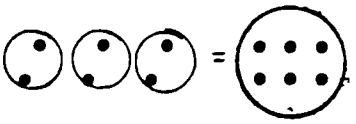
Name _____

An easy way to learn division is to remember that it's just like multiplying backwards. You know that 2 x 3 = 6. This means there are 2 groups of 3 in the number 6. (There are also 3 groups of 2 in the number 6.)

2 groups of 3 = 6

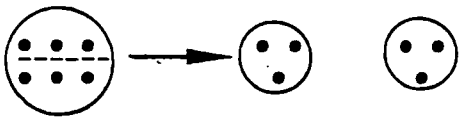


3 groups of 2 = 6

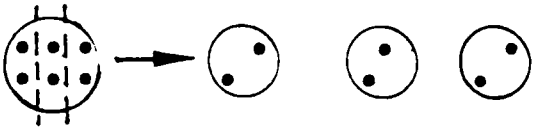


So you know that 6 ÷ 3 = 2, and 6 ÷ 2 = 3.

There are 2 groups of 3 in 6



There are 3 groups of 2 in 6



If you know your multiplication tables (your "times tables") then you can divide.

Look at the division problem and you can find a multiplication problem inside it.

$4\overline{)\,20}^{\,?}$

$4 \times 5 = 20$, so $4\overline{)20}^{\,5}$

When you see this problem, think: "4 times what equals 20?" You know that 4 times 5 equals 20, so that is the answer.

30 ÷ 6 = ?

6 x 5 = 30, so 30 ÷ 6 = 5

Ask yourself, "6 times what equals 30?" The answer is 6 times 5 equals 30, so that is your answer.

Instructions: Do the problem on the next page. First, ask yourself a multiplying question and write the answer down. Then put in the answer to the division problem.

Example:

$9\overline{)\,72}^{\,8}$ 9 x 8 = 72 42 ÷ 6 = 7 6 x 7 = 42

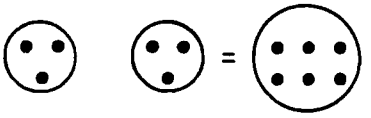
D

Whole Numbers - Division
Activity Sheet 30A
Dividing and Multiplying are Related

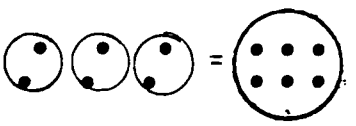
Name _____

An easy way to learn division is to remember that it's just like multiplying backwards. You know that 2 x 3 = 6. This means there are 2 groups of 3 in the number 6. (There are also 3 groups of 2 in the number 6.)

2 groups of 3 = 6

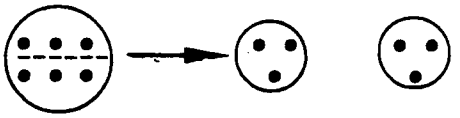


3 groups of 2 = 6

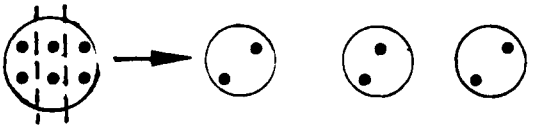


So you know that 6 ÷ 3 = 2, and 6 ÷ 2 = 3.

There are 2 groups of 3 in 6



There are 3 groups of 2 in 6



If you know your multiplication tables (your "times tables") then you can divide.

Look at the division problem and you can find a multiplication problem inside it.

$4/\overline{20}$?

$4 \times 5 = 20$, so $4/\overline{20}$ 5

When you see this problem, think: "4 times what equals 20?" You know that 4 times 5 equals 20, so that is the answer.

$30 \div 6 = ?$

$6 \times 5 = 30$, so $30 \div 6 = 5$

Ask yourself, "6 times what equals 30?" The answer is 6 times 5 equals 30, so that is your answer.

Instructions: Do the problems on the next page. First, ask yourself a multiplying question and write the answer down. Then put in the answer to the division problem.

Example:

$9/\overline{72}$ 8 $\quad 9 \times 8 = 72$ $\quad 42 \div 6 = 7 \quad 6 \times 7 = 42$

Whole Numbers - Division
Activity Sheet 30A (Continued)
Dividing and Multiplying are Related

Name _____

$2\overline{)10}$	$2\overline{)36}$	$6\overline{)48}$
$14 \div 7 =$	$84 \div 7 =$	$16 \div 8 =$
$3\overline{)9}$	$7\overline{)35}$	$5\overline{)30}$
$56 \div 7 =$	$63 \div 9 =$	$27 \div 3 =$
$4\overline{)28}$	$78 \div 6 =$	$4\overline{)24}$
$40 \div 5 =$	$7\overline{)84}$	$35 \div 7 =$
$8\overline{)16}$	$30 \div 5 =$	$7\overline{)14}$

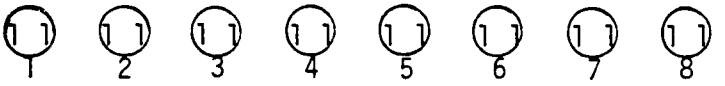
Whole Numbers - Division
Activity Sheet 31A
Dividing One Digit Into One or Two

Name_____

To divide a small number into a larger number, you just decide how many groups of the smaller number there are in the bigger number. For instance, in the problem $2\overline{)4}$, you just decide how many 2's there are in 4. A simple way might be to make 4 lines 1111 ; then see how many groups of 2 there are. You could do this by drawing a circle around every group of 2, like this: (11) (11) . Then count the groups. As you can see, there are 2 groups of 2 in 4; so $2\overline{)\overset{2}{4}}$. In division you put the answer up on top of the line.

When you are dividing one digit into two digits, your first step is to decide whether the number you are dividing by is larger than the first digit of the number you are dividing into. If the number you are dividing by is larger than the first digit, then you divide your number into the whole larger number.

Example: $2\overline{)16}$, is 2 larger than 1? Yes. Is 2 larger than 16? No. Now you divide 16 up by 2's.

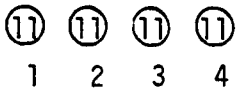


The answer is 8. There are 8 groups of 2 in the number 16.
So $2\overline{)\overset{8}{16}}$.

If you know your multiplication tables well, you do not need to make a bunch of lines and circle them into groups. If you know that 9 x 5 = 45, then you also know that $9\overline{)\overset{5}{45}}$ and $5\overline{)\overset{9}{45}}$ because there are 9 groups of 5, or 5 groups of 9, in the number 45.

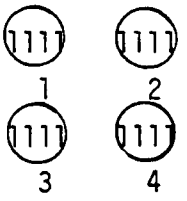
Examples:

$2\overline{)\overset{4}{8}}$



There are 4 groups of 2 in the number 8.

$4\overline{)\overset{4}{16}}$



There are 4 groups of 4 in the number 16.

49 ÷ 7

$7\overline{)49}$

$7\overline{)\overset{7}{49}}$

or

$7\overline{)\overset{7}{49}}$

1 (1111111) (1111111) 5
2 (1111111) (1111111) 6
3 (1111111) (1111111) 7
4 (1111111)

There are 7 groups of 7 in the number 49.

Whole Numbers - Division
Activity Sheet 31A (Continued)
Dividing One Digit Into One or Two

Name_____

Instructions: Divide the smaller number into the larger number in the problems below. Remember that there are two "symbols" for dividing. $5\overline{)10}$ and $10 \div 5$, both mean the same thing: divide 5 into 10. Put the answer to the right of the equals (=) sign, or above the line.

$1 \div 1 =$	$2 \div 2 =$	$4 \div 2 =$	$10 \div 5 =$
$9 \div 3 =$	$8 \div 2 =$	$4 \div 4 =$	$12 \div 2 =$
$10 \div 2 =$	$6 \div 3 =$	$6 \div 2 =$	$9 \div 9 =$
$3\overline{)9}$	$2\overline{)4}$	$5\overline{)10}$	$2\overline{)4}$
$4\overline{)4}$	$5\overline{)5}$	$2\overline{)8}$	$2\overline{)6}$
$2\overline{)16}$	$3\overline{)15}$	$4\overline{)16}$	$3\overline{)12}$
$5\overline{)15}$	$3\overline{)18}$	$6\overline{)24}$	$8\overline{)24}$
$3\overline{)27}$	$4\overline{)28}$	$7\overline{)14}$	$9\overline{)36}$

Whole Number - Division
Activity Sheet 32A
Converting from ÷ to /

Name _____

There are two kinds of division problems. They are: $75 \div 3 =$ and $3/\overline{75}$

It is easier to do this kind of division problem $3/\overline{75}$ because you have a place to do your work. You can do long division.

$$\begin{array}{r} 25 \\ 3/\overline{75} \\ \underline{6} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

When you see a problem written like this $75 \div 3 =$, you can change it into the other kind of division problem $3/\overline{75}$ very easily.

$75 \div 3 =$ means "75 divided by 3 equals ..."

$3/\overline{75}$ means "3 divided into 75 equals ..."

So you can see that they are just two ways of saying the same thing.

To change the problem, do this:

$75 \div 3 = \ /\overline{\quad}$ 1. Write a long division sign.

$75 \div 3 = \ /\overline{75}$ 2. Put the bigger number (the number you want to divide into) under the sign.

$75 \div 3 = 3/\overline{75}$ 3. Take the smaller number (the number you want to divide by) and put it in front of the long division sign.

$$\begin{array}{r} 3/\overline{75} \\ \underline{6} \\ 15 \\ \underline{15} \\ 0 \end{array}$$

Now you can solve your problem by long division.

Instructions: Change the problems below so that they are long division problems. Decide which answer (A, B, C, or D) is the correct way to write the problem. Then blacken in that square on the Answer Sheet.

Example: $14 \div 4 =$

[A] [B] [C] [D]

A) $/\overline{414}$

B) $4/\overline{14}$

C) 56

D) $14/\overline{4}$

Whole Number - Division
Activity Sheet 32A (Continued)
Converting from ÷ to)

Name _____

1. 43 ÷ 4 =

A.)434
B. 43.4
C. 4)43
D. 43)4

2. 66 ÷ 7 =

A. 7)66
B. 7.66
C. 7 ÷ 66
D. 6)67

3. 4 ÷ 2 =

A. 2)4
B. 4)2
C. 2 ÷ 4
D. 2.4

4. 7 ÷ 3 =

A. 7.3
B.)73
C. 37)
D. 3)7

5. 83 ÷ 11 =

A. 83)11
B. 1183)
C. 11)83
D. 94

6. 32 ÷ 2 =

A. 34
B. 2)34
C. 32)2
D. 2)32

7. 7 ÷ 1 =

A. 1.7
B. 1)7
C. 8
D. 7.1

8. 96 ÷ 10 =

A. 10)96
B. 9.6)10
C. 960
D.)9610

9. 82 ÷ 3 =

A. 3)82
B.)823
C. 82)3
D. 8)23

10. 79 ÷ 26 =

A. 2679)
B. 6)279
C. 79)62
D. 26)79

11. 95 ÷ 6 =

A. 95)6
B. 6)95
C. 95.6)
D. 9)56

12. 23 ÷ 3 =

A. 233)
B. 23)3
C. 2)33
D. 3)23

13. 90 ÷ 40 =

A. 9)40
B. 4)90
C. 40)90
D. 90)40

14. 78 ÷ 35 =

A. 78)35
B. 7)835
C. 78.35
D. 35)78

15. 4 ÷ 3 =

A. 3)4
B. 4.3
C. 7
D. 12

16. 15 ÷ 5 =

A. 20
B. 5)15
C. 15)5
D. 1)55

17. 20 ÷ 4 =

A.)204
B. 20)4
C. 4)20
D. 80

18. 100 ÷ 10 =

A. 1000
B. 100)10
C. 10)100
D.)1000

19. 50 ÷ 16 =

A.)5016
B. 50)16
C. 800
D. 16)50

20. 25 ÷ 5 =

A. 5)25
B.)525
C. 125
D. 25)5

Whole Numbers - Division
Activity Sheet 32A
Converting from ÷ to /
Continued

Name _____

ANSWER SHEET

	A	B	C	D
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐
16.	☐	☐	☐	☐
17.	☐	☐	☐	☐
18.	☐	☐	☐	☐
19.	☐	☐	☐	☐
20.	☐	☐	☐	☐

Whole Numbers - Division
Activity Sheet 33A
Dividing One Digit Into Two Digits

Name_____

When you divide a one digit number into a two digit number, you might find that the first digit of the number you are dividing <u>into</u> is bigger than the number you are dividing <u>by</u>. For instance, in the problem

$4\overline{)72}$ ...the 7 is <u>bigger</u> than the 4.

You need to do this kind of division problem in two steps.

First, divide the 4 into the 7.

$$\begin{array}{r} 1 \\ 4\overline{)72} \end{array}$$

4 only goes into 7 one time, and you have some left over. 1x4=4, so you put the 4 <u>under</u> the 7 and subtract it. Your remainder is 3. This is the first half of the problem.

$$\begin{array}{r} 1 \\ 4\overline{)72} \\ \underline{4} \\ 3 \end{array}$$

$$\begin{array}{r} 1 \\ 4\overline{)72} \\ \underline{4} \\ 32 \end{array}$$

Now, you bring the next number in the problem <u>down</u> to stand beside the remainder you got from dividing 4 into 7. The number you get on the bottom is 32.

$$\begin{array}{r} 18 \\ 4\overline{)72} \\ \underline{4} \\ 32 \end{array}$$

Now divide 4 into 32. Your answer is 8. You put this answer up next to the other answer above the line.

$$\begin{array}{r} 18 \\ 4\overline{)72} \\ \underline{4} \\ 32 \\ \underline{32} \\ 0 \end{array}$$

Do you have a remainder from this second division? To check, multiply 8 x 4 and you get 32. Put this below the 32 that you divided into. 32 - 32 = 0. So you have no remainder. Your problem is finished and $\overline{18}$ $4\overline{)72}$.

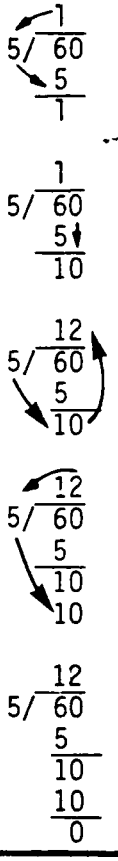
Work through this example to practice this kind of division, which is called <u>long division</u>:

$5\overline{)60}$

First, divide 5 into the first digit, the 6. It goes one time.

$$\begin{array}{r} 1 \\ 5\overline{)60} \end{array}$$

Name_____



Second, multiply 1 x 5. It equals 5. Subtract this from 6 and your remainder is 1.

Bring down the next digit, the 0.

Divide 5 into the new number, which is 10, and put the answer up above.

Check for a remainder. Multiply 2 x 5; your answer is 10. Put this at the bottom.

10 - 10 = 0, so there is no remainder.

Instructions: Work the problems on this page. You will see two kinds of problems. One kind looks like this:

$2\overline{)88}$

The other looks like this: $88 \div 2 =$

Whenever you see the second kind of problem, change it to the first kind, like this:

$88 \div 2 =$ ⟶ $2\overline{)88}$ $\qquad$ $25 \div 5 =$ ⟶ $5\overline{)25}$

Then go ahead and solve the problem using the long division method.

$3\overline{)66}$	$9\overline{)90}$	$6\overline{)30}$	$3\overline{)12}$	$1\overline{)33}$
$4\overline{)16}$	$2\overline{)10}$	$3\overline{)36}$	$8\overline{)80}$	$6\overline{)24}$

Whole Numbers - Division
Activity Sheet 33A (Continued)
Dividing One Digit Into Two Digits

Name_____

40 ÷ 8	88 ÷ 4	64 ÷ 8	70 ÷ 5	45 ÷ 9
$9\overline{)81}$	$8\overline{)72}$	$6\overline{)36}$	$6\overline{)66}$	$7\overline{)56}$
$7\overline{)42}$	$5\overline{)65}$	$4\overline{)64}$	$3\overline{)54}$	$6\overline{)72}$
33 ÷ 3	45 ÷ 5	18 ÷ 3	15 ÷ 3	96 ÷ 8

Whole Numbers - Division
Activity Sheet 34A
Dividing One Digit Into Two With
A Remainder

Name_____

When you divide one number into another, and you have something extra left over, that something extra is called the remainder.

$$2/\overline{5}\quad 2,\ 4,\ 1$$

This remainder can be written two ways:

$$2/\overline{5}\quad 2,\ 4,\ 1 \qquad \text{or} \qquad 2/\overline{5}\quad 2\tfrac{1}{2},\ 4,\ 1$$

In method ① you just write "r=", then take the remainder and put it after the (=) sign like this:

$$2/\overline{5}\quad 2\ r=1,\ 4,\ 1$$

In method ② you take the remainder and set it over the number you're dividing with, in this case 2. The whole problem will look like this when finished.

$$2/\overline{5}\quad 2\tfrac{1}{2},\ 4,\ 1$$

Instructions: Divide the single digit numbers into the two digit numbers in each problem; then put the remainder into the form indicated.

Examples:

$$3/\overline{10}\ r=\quad 3/\overline{10}\ 3\ r=1,\ 9,\ 1$$

$$7/\overline{87}\ -\quad 7/\overline{87}\ 12\tfrac{3}{7},\ 7,\ 17,\ 14,\ 3$$

$$9/\overline{78}\ -\quad 9/\overline{78}\ 08\tfrac{6}{9},\ 0,\ 78,\ 72,\ 6$$

$8/\overline{65}\ r=$ $\quad 6/\overline{84}\ r=$ $\quad 7/\overline{33}\ r=$ $\quad 3/\overline{89}\ r=$ $\quad 5/\overline{99}\ r=$

$9/\overline{78}\ -$ $\quad 5/\overline{46}\ -$ $\quad 5/\overline{19}\ -$ $\quad 2/\overline{53}\ -$ $\quad 1/\overline{28}\ -$

While Numbers - Division
Activity Sheet 34A (Continued)
Dividing One Digit Into Two With
A Remainder

Name_____

6/ 37 -	3/ 47 -	4/ 94 -	7/ 58 -	8/ 17 -
9/ 83 r=	4/ 27 r=	7/ 69 r=	6/ 76 r=	5/73 r=
2/ 63 -	7/ 24 -	3/97 -	5/86 -	8/ 31 -

Whole Numbers - Division
Activity Sheet 35A
Dividing Two Digits into Three Digits

Name _____

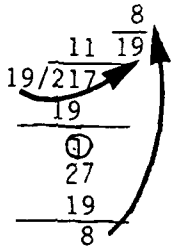
On these pages you will be dividing two digit numbers into three digit numbers. This is the same as dividing a one digit number into a two digit number. You will divide from left to right, carry, and write remainders.

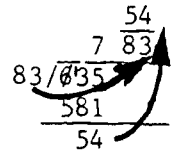
Instructions: Divide the numbers into each other and put the answers in the right places. Remember! Whenever you a see problem with a (÷) in it, you can write the problem over again using a (/) sign so it is easier to work.

Examples:

217 ÷ 19 =

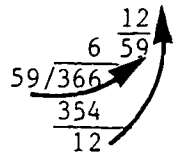
19/217





366 ÷ 59 =

59/366



109 ÷ 55 =	435 ÷ 90 =	834 ÷ 85 =	102 ÷ 59 =
22/270	10/117	34/302	50/954
785 ÷ 71 =	929 ÷ 52 =	500 ÷ 37 =	569 ÷ 97 =
19/594	81/804	59/591	35/920
35/822	65/246	32/507	12/342

Whole Numbers - Division
Activity Sheet 36A
Dividing Three Digits into Four Digits

Name _____

> In this lesson you will divide three digit numbers into four digit numbers. You do this the same way that you divide a two digit number into a three digit number. You divide from from left to right, carry, and write remainders.

Instructions: Divide these numbers into each other and put the answers in the correct places. Do not forget to change the (÷) problems to (/) problems.

Examples:

3471 ÷ 416

416/3471

```
      8  143
416/3471  416
    3328
     143
```

```
        8
       20  444
444/8888
    888
    0008
    0000
       8
```

9545 ÷ 175 =

175/9545

```
      54  95
175/9545  175
     875
      795
      700
       95
```

4371 ÷ 509 =

3035 ÷ 156 =

8768 ÷ 246 =

8513 ÷ 313 =

484/1009

271/2110

100/4686

101/1303

4318 ÷ 491

994 ÷ 801

5995 ÷ 135

2061 ÷ 133

714/7854

379/5009

978/999

333/6666

368/8228

225/2706

109/1022

390/4910

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 1A
Introduction to Numbers: Problems

Name_____

Instructions: Read each problem below and choose the right answer from the choices given. Write the letter of the right answer on the line to the right of the problem. If you get stuck on one problem, go on to the next one and then come back to the tough ones later.

Example: The number four is written:
(a) 5 (c) 7 (e) 8
(b) 1 (d) 4

d

Write the letter of the right answer

1. The number fifteen is written:
(a) 55 (c) 51 (e) 105
(b) 15 (d) 510

1. b

2. In the number 8497, the "7" is in the:
(a) ones place (c) hundreds place
(b) tens place (d) thousands place

2. a

3. The name of the number "94" is:
(a) nine (c) nine hundred and four
(b) forty-nine (d) ninety-four

3. d

4. Which of these numbers has "1" in the hundreds' place?
(a) 6291 (c) 4132
(b) 1875 (d) 2817

4. c

5. Which of these numbers is the largest?
(a) 843 (c) 657 (e) 882
(b) 799 (d) 518

5. e

6. In the number 6,492,835 which digit is in the thousands place?
(a) 4 (c) 2 (e) 6
(b) 9 (d) 8

6. c

7. The number seven is written:
(a) 5 (c) 2 (e) 7
(b) 1 (d) 9

7. e

8. Which of these numbers is smallest?
(a) 311 (c) 400 (e) 109
(b) 197 (d) 532

8. e

9. Which of these is <u>not</u> the name of a number?
(a) seven (c) tree
(b) sixty-two (d) forty-five

9. c

10. The number forty-two thousand, six hundred and seventy one is written:
(a) 42,671 (c) 4,206,071
(b) 402,671 (d) 42,000,671

10. a

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 2A
Adding Two One-Digit Numbers: Columns

Name_____

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must add two one-digit numbers together. They are arranged in columns, that is, with one number over the other.

Instructions: Add each column of one-digit numbers and write the sum below the line.

Examples:

1	8	9
+4	+3	+0
5	11	9

3	1	7	5	1
+4	+8	+4	+8	+5
7	9	11	13	6
2	4	7	7	1
+5	+8	+9	+6	+0
7	12	16	13	1
6	3	4	7	9
+7	+3	+2	+7	+3
13	6	6	14	12
6	3	8	5	7
+6	+8	+6	+7	+3
12	11	14	12	10
8	7	0	4	0
+0	+7	+7	+6	+9
8	14	7	10	9
8	2	2	5	1
+4	+0	+4	+1	+5
12	2	6	6	6
8	1	9	2	9
+9	+1	+5	+3	+9
17	2	14	5	18
0	7	0	6	6
+3	+4	+4	+0	+8
3	11	4	6	14

CHECK SHEET

Whole Numbers - Addition

Activity Sheet 3A

Name_____

Adding Two One-Digit Numbers: Rows

In these problems, the one-digit numbers are arranged in rows.

Instructions: Add each row of one-digit numbers and write the sum to the right of the equals (=) sign.

Examples: 1+4=5 8+3=11 9+0=9

1 + 5 = 6	1 + 0 = 1	9 + 3 = 12	7 + 3 = 10
0 + 9 = 9	1 + 6 = 7	9 + 9 = 18	6 + 8 = 14
6 + 0 = 6	2 + 3 = 5	5 + 1 = 6	4 + 6 = 10
5 + 7 = 12	7 + 7 = 14	7 + 6 = 13	5 + 8 = 13
7 + 4 = 11	7 + 9 = 16	4 + 2 = 6	8 + 6 = 14
0 + 7 = 7	2 + 4 = 6	9 + 5 = 14	0 + 4 = 4
7 + 4 = 11	1 + 1 = 2	2 + 0 = 2	7 + 7 = 14
3 + 8 = 11	3 + 3 = 6	4 + 8 = 12	1 + 8 = 9
3 + 4 = 7	2 + 5 = 7	6 + 7 = 13	6 + 6 = 12
8 + 0 = 8	8 + 4 = 12	8 + 9 = 17	0 + 3 = 3

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 4A
Adding Two-Digit Numbers: Column

Name_____

When you have bigger numbers to add, you add them together from right to left. For instance, if you want to add

$$\begin{array}{r} 21 \\ +53 \end{array}$$

you must first add the right hand column, the 1 and the 3. This gives you 4 in the right-hand answer space.

$$\begin{array}{r} 21 \\ +53 \\ \hline 4 \end{array}$$

Then you add the numbers in the left-hand column. 2 + 5= 7. This gives you

$$\begin{array}{r} 21 \\ +53 \\ \hline 74 \end{array}$$

and that is the solution to the problem.

Instructions: Add the numbers in the problems on this page and write your answers below the line. Remember to add the right-hand column first.

Examples:

$$\begin{array}{r} 40 \\ +43 \\ \hline 83 \end{array} \qquad \begin{array}{r} 92 \\ +15 \\ \hline 107 \end{array} \qquad \begin{array}{r} 20 \\ +10 \\ \hline 30 \end{array}$$

$\begin{array}{r} 41 \\ +43 \\ \hline 84 \end{array}$	$\begin{array}{r} 66 \\ +61 \\ \hline 127 \end{array}$	$\begin{array}{r} 37 \\ +51 \\ \hline 88 \end{array}$	$\begin{array}{r} 13 \\ +81 \\ \hline 94 \end{array}$	$\begin{array}{r} 20 \\ +32 \\ \hline 52 \end{array}$
$\begin{array}{r} 16 \\ +72 \\ \hline 88 \end{array}$	$\begin{array}{r} 90 \\ +16 \\ \hline 106 \end{array}$	$\begin{array}{r} 30 \\ +82 \\ \hline 112 \end{array}$	$\begin{array}{r} 12 \\ +66 \\ \hline 78 \end{array}$	$\begin{array}{r} 45 \\ +33 \\ \hline 78 \end{array}$
$\begin{array}{r} 94 \\ +93 \\ \hline 187 \end{array}$	$\begin{array}{r} 90 \\ +18 \\ \hline 108 \end{array}$	$\begin{array}{r} 62 \\ +24 \\ \hline 86 \end{array}$	$\begin{array}{r} 23 \\ +12 \\ \hline 35 \end{array}$	$\begin{array}{r} 51 \\ +10 \\ \hline 61 \end{array}$
$\begin{array}{r} 92 \\ +84 \\ \hline 176 \end{array}$	$\begin{array}{r} 90 \\ +40 \\ \hline 130 \end{array}$	$\begin{array}{r} 17 \\ +90 \\ \hline 107 \end{array}$	$\begin{array}{r} 40 \\ +88 \\ \hline 128 \end{array}$	$\begin{array}{r} 85 \\ +83 \\ \hline 168 \end{array}$
$\begin{array}{r} 46 \\ +40 \\ \hline 86 \end{array}$	$\begin{array}{r} 22 \\ +43 \\ \hline 65 \end{array}$	$\begin{array}{r} 91 \\ +65 \\ \hline 156 \end{array}$	$\begin{array}{r} 73 \\ +60 \\ \hline 133 \end{array}$	$\begin{array}{r} 60 \\ +93 \\ \hline 153 \end{array}$
$\begin{array}{r} 20 \\ +92 \\ \hline 112 \end{array}$	$\begin{array}{r} 45 \\ +24 \\ \hline 69 \end{array}$	$\begin{array}{r} 36 \\ +12 \\ \hline 48 \end{array}$	$\begin{array}{r} 81 \\ +87 \\ \hline 168 \end{array}$	$\begin{array}{r} 29 \\ +70 \\ \hline 99 \end{array}$

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 5A
Adding Two-Digit Numbers: Row

Name_____

Adding numbers side-by-side is a little bit tricky. The numbers aren't neatly lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 21+53= ____, you first add the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 21+53= ___4 (because 1+3=4). Then add the numbers in the tens place, the 2 and the 5, and write your answer to the left of the answer you got before, like this: 21+53= __74. This is your answer.

Instructions: Add the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 40+43= 83 92+15= 107 20+10= 30

41 + 43 = 84	66 + 61 = 127	37 + 51 = 88	13 + 81 = 94
20 + 32 = 52	45 + 33 = 78	51 + 10 = 61	85 + 83 = 168
60 + 93 = 153	29 + 70 = 99	93 + 40 = 133	73 + 95 = 168
67 + 22 = 89	20 + 34 = 54	81 + 45 = 126	22 + 95 = 117
10 + 27 = 37	20 + 97 = 117	46 + 40 = 86	92 + 93 = 185
16 + 72 = 88	90 + 16 = 106	30 + 82 = 112	12 + 66 = 78
23 + 12 = 35	40 + 88 = 128	73 + 60 = 133	81 + 87 = 168
21 + 83 = 104	55 + 42 = 97	51 + 14 = 65	45 + 24 = 69

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 6A
Carrying: Numbers in a Column

Name_____

When the numbers in a column you are adding add up to more than 9, you have a two-digit answer. It won't fit into one column in the answer space. You need to "carry" the first digit over and add it onto the next column to the left. For example, in the problem

$$\begin{array}{r} 37 \\ +56 \\ \hline \end{array}$$

7 plus 6 equals 13. There is not enough space to fit the 13 under the ones column in the problem.

But since 13 is the same as a ten and three ones, you can take the "1" in the tens place and add it to the top of the tens column in the problem, like this:

$$\begin{array}{r} \textcircled{1} \\ 37 \\ +56 \\ \hline 3 \end{array}$$

Now you can go ahead and add the tens column up and finish the problem. The finished problem will look like this:

$$\begin{array}{r} \textcircled{1} \\ 37 \\ +56 \\ \hline 93 \end{array}$$

Instructions: Add the numbers in the problems on these pages, and carry over numbers to the next column when you need to.

Examples:

$$\begin{array}{r} \textcircled{1} \\ 24 \\ +19 \\ \hline 43 \end{array} \qquad \begin{array}{r} \textcircled{1} \\ 86 \\ +58 \\ \hline 144 \end{array} \qquad \begin{array}{r} \textcircled{1} \\ 59 \\ +33 \\ \hline 92 \end{array}$$

(You don't have to draw the lines to show that you carried a number up to the top of the next column; just put the number up there.)

65 +26 91	84 +99 183	68 +43 111	87 +17 104	35 +56 91
59 +28 87	17 +45 62	53 +37 90	26 +25 51	15 +27 42
66 +55 121	99 +54 153	13 +47 60	15 +35 50	34 +67 101
99 +14 113	16 +89 105	41 +29 70	65 +97 162	39 +93 132

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 6A, Continued
Carrying: Numbers in a Column

Name_____

55 +97 152	66 +24 90	25 +98 123	87 +24 111	67 +83 150
45 +67 112	48 +56 104	87 +29 116	59 +51 110	69 +46 115
62 +18 80	57 +73 130	49 +44 93	65 +48 113	78 +59 137
56 +87 143	98 +96 194	14 +37 51	88 +64 152	54 +29 83

CHECK SHEET

Whole Numbers - Addition
Activity Sheet 7A
Carrying: Numbers in a Row

Name_____

When your problem is arranged in a row, you don't have a nice handy column for the number you carried to go above. You can put that number above the proper digit in the first number of the problem, like this:

$$\overset{1}{37} + 56 = \underline{\quad 3}$$

The 1 represents a ten, so be sure you put it above a number which is in a tens place. Then when you add the numbers in the tens places, don't forget to add the number you carried over!

$$\overset{1}{37} + 56 = \underline{93}$$ because 7 + 6 = 13 and you carried the 1, then 1 + 3 + 5 = 9.

Instructions: Add the numbers in the problems on this page, and carry numbers back to the proper place whenever you need to.

Examples: $\overset{1}{24} + 19 = 43$ $\overset{1}{86} + 58 = 144$ $\overset{1}{59} + 33 = 92$

35 + 56 = 91	15 + 27 = 42	34 + 67 = 101	39 + 93 = 132
67 + 83 = 150	69 + 46 = 115	78 + 59 = 137	54 + 29 = 83
88 + 64 = 152	65 + 48 = 113	59 + 51 = 110	87 + 24 = 111
65 + 97 = 162	15 + 35 = 50	26 + 25 = 51	87 + 17 = 104
68 + 43 = 111	53 + 37 = 90	13 + 47 = 60	41 + 29 = 70
25 + 98 = 123	87 + 29 = 116	49 + 44 = 93	14 + 37 = 51
98 + 96 = 194	57 + 73 = 130	48 + 56 = 104	66 + 24 = 90

CHECK SHEET

Whole Numbers - Addition

Activity Sheet 8A

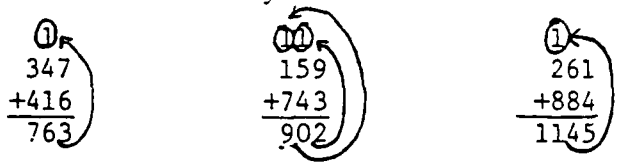
Name_____

Adding Two Three-Digit Numbers in a Column

In these problems you are adding bigger numbers. You may have to carry over numbers to the next column. In some problems you may have to carry over numbers twice - once to the tens column and once to the hundreds column.

Instructions: Add the numbers on this page and put the answers below the line. Carry over numbers whenever you need to.

Examples:



(You don't have to draw the lines to show you carried the numbers.)

197 +217 414	834 +635 1469	391 +566 957	554 +109 663	909 +435 1344
854 +834 1688	592 +102 694	225 +270 495	101 +117 218	345 +302 647
506 +954 1460	714 +785 1499	523 +929 1452	379 +500 879	978 +569 1547
195 +594 789	813 +804 1617	590 +491 1081	357 +920 1277	368 +822 1190
658 +246 904	505 +327 832	342 +122 464	701 +484 1185	320 +465 785
108 +994 1102	135 +599 734	131 +206 337	760 +939 1699	268 +182 450

CHECK SHEET

Whole Numbers- Addition
Activity Sheet 9A
Adding Two Three-Digit Numbers in a Row

Name_____

Here are some problems where you may have to carry over numbers from one part of the answer back to the beginning of the problem. Solve them like you did using two-digit numbers, except that you may have to carry twice.

Instructions: Add the numbers in the problems on this page, and carry numbers back to the proper place when you need to.

Examples:

$$\begin{array}{r} {\scriptstyle 1} \\ 347 \\ +\ 416 \\ \hline 763 \end{array} \qquad \begin{array}{r} {\scriptstyle 11} \\ 159 \\ +\ 743 \\ \hline 902 \end{array} \qquad \begin{array}{r} {\scriptstyle 1} \\ 261 \\ +\ 884 \\ \hline 1145 \end{array}$$

368 + 822 = 1190	197 + 217 = 414	322 + 665 = 987	658 + 246 = 904
357 + 920 = 1277	834 + 635 = 1469	303 + 140 = 443	505 + 327 = 832
590 + 491 = 1081	391 + 566 = 957	216 + 153 = 369	342 + 122 = 464
813 + 804 = 1617	554 + 109 = 663	290 + 619 = 909	701 + 484 = 1185
195 + 594 = 789	909 + 435 = 1344	494 + 928 = 1422	320 + 465 = 785
978 + 569 = 1547	854 + 834 = 1688	310 + 842 = 1152	108 + 994 = 1102
379 + 500 = 879	592 + 102 = 694	251 + 404 = 655	135 + 599 = 734
523 + 929 = 1452	225 + 270 = 495	646 + 978 = 1624	131 + 206 = 337

CHECK SHEET

Whole Numbers - Addition

Activity Sheet 10A

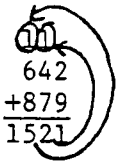
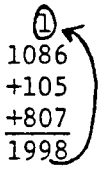
Name _____

Practice Numbers in Columns: Addition

Try your skill now at adding all kinds of problems in columns. Sometimes you will have to carry numbers, and sometimes you will not.

Instructions: Add the numbers in the problems on this page, and put your answers below the lines. Sometimes you will need to carry numbers. Write the numbers you carry above the proper columns.

Examples:

241 +56 + 2 299	 642 +879 1521	 1086 +105 +807 1998

(You don't have to draw the lines to show you carried a number.)

3 76 +33 112	71 4 + 5 80	795 888 + 9 1692	51 18 +11 80	2 97 +31 130
981 + 15 996	100 + 6 106	175 +446 621	610 + 3 613	6854 + 131 6985
130 903 + 14 1047	468 166 + 23 657	633 688 +460 1781	972 748 + 57 1777	556 545 +920 2021
3 60 +87 150	56 3 + 6 65	324 380 + 8 712	34 24 + 0 58	11 69 +85 165
780 290 51 +565 1686	11 84 78 + 8 181	38 13 5 +72 128	167 199 6 +442 814	1 30 2 +41 74
4371 6885 509 + 86 11851	156 3035 29 +3812 7032	445 34 15 +695 1189	1009 578 1 +809 2397	181 484 87 +126 878
271 8902 2110 + 16 11299	531 938 6285 + 3 7757	4033 84 8768 + 105 12990 323	935 246 54 +9469 10704	63 313 8513 + 157 9046

CHECK SHEET

Whole Numbers - Addition

Activity Sheet 11A

Name_____

Practice Numbers in Rows: Addition

Here are several problems arranged in rows for you to try. Sometimes you will have to carry numbers and sometimes you will not.

Instructions: Add the numbers in the problems on this page, and put your answers to the right of the equals sign. Sometimes you will need to carry numbers. Write the numbers you carry above the proper place in the first number of the problem.

Examples: 241+56+2= 299 $\quad$ ^{11} 642+879= 1521 $\quad$ ^{1} 1086+105+807= 1998

84 + 22 = 106	689 + 29 = 718	14 + 290 = 304
68 + 92 = 160	353 + 86 = 439	3 + 76 + 33 = 112
2 + 97 + 31 = 130	6854 + 131 = 6985	556 + 545 + 920 = 2021
11 + 69 + 85 = 165	1 + 30 + 2 + 41 = 74	51 + 18 + 11 = 80
610 + 3 = 613	972 + 748 + 57 = 1777	34 + 24 + 0 = 58
167 + 199 + 6 + 443 = 815	795 + 888 + 9 = 1692	175 + 446 = 621
633 + 688 + 460 = 1781	324 + 380 + 8 = 712	38 + 13 + 5 + 72 = 128
71 + 4 + 5 = 80	100 + 6 = 106	468 + 166 + 23 = 657
56 + 3 + 6 = 65	11 + 84 + 78 + 8 = 181	156 + 3035 + 29 = 3220
891 + 15 = 906	130 + 903 + 14 = 1047	3 + 60 + 87 = 150

CHECK SHEET

Whole Numbers - Subtraction

Activity Sheet 12A

Name_____

Subtracting Two One-Digit Numbers: Columns

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must subtract two one-digit numbers from each other. They are arranged in columns, that is, with one number over the other.

Instructions: Subtract each column of one-digit numbers from each other and write the difference below the line.

Examples:

4	8	9
-1	-3	-0
3	5	9

4	8	7	8	5
-3	-1	-4	-5	-1
1	7	3	3	4
5	8	9	7	1
-2	-4	-7	-6	-0
3	4	2	1	1
7	3	4	7	9
-6	-3	-2	-7	-3
1	0	2	0	6
6	8	8	7	7
-6	-3	-6	-5	-3
0	5	2	2	4
8	7	7	6	9
-0	-7	-0	-4	-0
8	0	7	2	9
8	2	4	5	5
-4	-0	-2	-1	-4
4	2	2	4	1
9	1	9	3	9
-8	-1	-5	-2	-9
1	0	4	1	0
3	7	4	6	8
-0	-4	-0	-0	-6
3	3	4	6	2

CHECK SHEET
Whole numbers - Subtraction
Activity Sheet 13A
Subtracting Two One-Digit Numbers: Rows

Name_____

In these problems, the one-digit numbers are arranged in rows.

Instructions: Subtract the second number from the first number and write the difference to the right of the equals (=) sign.

Examples: 4-1=3 8-3=5 9-0=9

5 - 1 = 4	1 - 0 = 1	9 - 3 = 6	7 - 3 = 4
9 - 0 = 9	6 - 1 = 5	9 - 9 = 0	8 - 6 = 2
6 - 0 = 6	3 - 2 = 1	5 - 1 = 4	6 - 4 = 2
7 - 5 = 2	7 - 7 = 0	7 - 6 = 1	8 - 8 = 0
7 - 4 = 3	9 - 7 = 2	4 - 2 = 2	8 - 6 = 2
7 - 0 = 7	4 - 2 = 2	9 - 5 = 4	4 - 0 = 4
6 - 4 = 2	1 - 1 = 0	2 - 0 = 2	7 - 7 = 0
8 - 3 = 5	3 - 3 = 0	8 - 4 = 4	8 - 1 = 7
4 - 3 = 1	5 - 2 = 3	7 - 6 = 1	6 - 6 = 0
8 - 0 = 8	8 - 4 = 4	7 - 4 = 3	3 - 0 = 3

CHECK SHEET
Whole Numbers - Subtraction
Activity Sheet 14A
Subtracting Two-Digit Numbers: Column

Name_____

When you have bigger numbers to subtract, you subtract them from each other from right to left. For instance, if you want to subtract

$$\begin{array}{r} 53 \\ -21 \\ \hline \end{array}$$

you must first subtract the right hand column, the 3 and the 1. This gives you 2 in the right-hand answer space.

$$\begin{array}{r} 53 \\ -21 \\ \hline 2 \end{array}$$

Then you subtract the numbers in the left-hand column. 5 - 2 = 3. This gives you

$$\begin{array}{r} 53 \\ -21 \\ \hline 32 \end{array}$$

and that is the solution to the problem.

Instructions: Subtract the numbers in the problems on this page and write your answers below the line. Remember to subtract the right-hand column first.

Examples:

$$\begin{array}{r} 43 \\ -40 \\ \hline 3 \end{array} \qquad \begin{array}{r} 95 \\ -12 \\ \hline 83 \end{array} \qquad \begin{array}{r} 20 \\ -10 \\ \hline 10 \end{array}$$

43 -41 2	66 -61 5	57 -31 26	83 -11 72	32 -20 12
76 -12 64	96 -10 86	82 -30 52	66 -12 54	45 -33 12
94 -93 1	98 -35 63	64 -22 42	23 -12 11	51 -10 41
94 -82 12	90 -40 50	97 -35 62	88 -40 48	85 -83 2
46 -40 6	43 -22 21	95 -61 34	73 -60 13	93 -60 33
92 -20 72	45 -24 21	36 -12 24	87 -81 6	79 -26 53

CHECK SHEET

Whole Numbers - Subtraction
Activity Sheet 15A
Subtracting Two-Digit Numbers: Row

Name_____

Subtracting numbers side-by side is a little bit tricky. The numbers aren't neatly lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 53-21= ____, you first subtract the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 53-21= ___2 (because 3-1=2). Then subtract the numbers in the tens place, the 5 and the 2, and write your answer to the left of the answer you got before, like this: 53-21= __32. This is your answer.

Instructions: Subtract the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 73-42= 31 95-12= 83 20-10= 10

43 - 41 = 2	66 - 61 = 5	57 - 31 = 26	83 - 11 = 72
32 - 20 = 12	45 - 33 = 12	51 - 10 = 41	85 - 83 = 2
93 - 60 = 33	79 - 26 = 53	93 - 40 = 53	95 - 73 = 22
67 - 22 = 45	34 - 23 = 11	85 - 41 = 44	95 - 22 = 73
27 - 10 = 17	97 - 20 = 77	46 - 40 = 6	93 - 92 = 1
76 - 12 = 64	96 - 15 = 81	82 - 30 = 52	66 - 12 = 54
23 - 12 = 11	88 - 40 = 48	73 - 60 = 13	87 - 81 = 6
83 - 21 = 62	55 - 42 = 13	54 - 13 = 41	45 - 24 = 21

CHECK SHEET

Whole Numbers - Subtraction
Activity Sheet 16A
Borrowing: Numbers in a Column

Name_____

When the top number in any column is smaller than the bottom number, you need to make the top number bigger. You do this by borrowing from the first column to the left.

For instance, in the problem:

```
 53
-37
```

7 is larger than 3, so you can't subtract it. But remember, the "5" in the number 53 is really 5 tens. So you can borrow one set of ten from 5, and that leaves 4 in the tens place.

```
  4
 ~~5~~3
-37
```

Next, add the ten you borrowed to the 3 in the ones place, and you get 13.

```
  4 13
 ~~5~~ ~~3~~
-37
 16
```

Now, 13-7=6, and 4-3 = 1. Your answer is 16.

Look at this problem:

```
 24
-19
```

You can't subtract 9 from 4. So you borrow ten ones from the tens place and add it to the 4. Then subtract. 14-9 = 5, and 1-1 = 0. (Remember, you don't have to write down the 0 if it is the first digit in a number.)

```
  1 14
 ~~2~~ ~~4~~
-19
  5
```

Instructions: Subtract the numbers in the problems on these pages. Borrow numbers from the next column when you need to.

Examples:

```
  7 16          4 13
 ~~8~~ ~~6~~   ~~5~~ ~~3~~
-58           -39
 28            14
```

65 -26 39	94 -89 5	63 -48 15	87 -18 69	55 -36 19
58 -29 29	45 -17 28	53 -37 16	35 -26 9	25 -17 8
65 -56 9	94 -59 35	43 -17 26	34 -16 18	64 -37 27

CHECK SHEET

Whole Numbers - Subtraction
Activity Sheet 16A, Continued
Borrowing: Numbers in a Column

Name_____

94 -19 75	86 -19 67	41 -29 12	95 -67 28	93 -34 59
95 -57 38	64 -26 38	95 -26 69	84 -27 57	83 -67 16
67 -49 18	56 -48 8	87 -29 58	61 -59 2	66 -48 18
62 -18 44	73 -57 16	57 -49 8	65 -48 17	78 -59 19
86 -57 29	91 -64 27	34 -17 17	80 -64 16	54 -29 25

CHECK SHEET

Whole Numbers - Subtraction
Activity Sheet 17A
Borrowing: Numbers in a Row

Name _____

When your problem is arranged in a row, you don't have a nice handy column for the number you carried to go above. You can put that number above the proper digit in the last number of the problem like this:

$$\overset{4\ 16}{5\not{0} - 37 = 9}$$

The 1 represents a ten, so be sure you put it with the number which is in the ones place. Then when you subtract numbers in the ones place, don't forget to subtract the 1 you carried over from the tens place!

$$\overset{4\ 16}{5\not{0} - 37 = 19}$$

Instructions: Subtract the numbers in the problems on this page, and carry numbers back to the proper place whenever you need to.

Examples: $\overset{1\ 14}{2\not{4} - 19 = 5}$ $\overset{7\ 16}{8\not{0} - 58 = 28}$ $\overset{4\ 13}{5\not{3} - 39 = 14}$

56 - 37 = 19	25 - 17 = 8	64 - 37 = 27	93 - 38 = 55
83 - 67 = 16	66 - 49 = 17	78 - 59 = 19	54 - 29 = 25
84 - 68 = 16	65 - 48 = 17	51 = 49 = 2	84 - 27 = 57
95 - 68 = 27	35 - 16 = 19	36 - 27 = 9	87 - 18 = 69
63 - 48 = 15	53 - 37 = 16	43 - 17 = 26	41 - 29 = 12
95 - 28 = 67	87 - 29 = 58	64 - 47 = 17	34 - 17 = 17
68 - 39 = 29	73 - 57 = 16	56 - 48 = 8	64 - 26 = 38

CHECK SHEET
Whole Numbers - Subtraction
Activity Sheet 18A

Name_____

Subtracting Two Three-Digit Numbers in a Column

In these problems you are subtracting bigger numbers. You may have to borrow 10 from the next column. In some problems you may have to borrow twice - once from the tens column and once from the hundreds column.

Instructions: Subtract the numbers on this page and put the answers below the line. Borrow whenever you need to.

Examples:

3~~0~~ 10 16	6~~3~~ 13 13	
~~4~~~~7~~~~6~~	~~7~~~~4~~~~3~~	884
-347	-159	-261
69	584	623

217	834	566	554	909
-197	-635	-391	-109	-435
20	199	175	445	474
854	592	270	117	345
-834	-102	-225	-101	-302
20	490	45	16	43
954	785	929	500	978
-506	-714	-523	-379	-569
448	71	406	121	409
594	813	590	920	822
-195	-804	-491	-357	-368
399	9	99	563	454
658	505	342	701	465
-246	-327	-122	-484	-320
412	178	220	217	145
994	599	206	939	268
-108	-135	-131	-760	-182
886	464	75	179	86

CHECK SHEET

Whole Numbers - Subtraction
Activity Sheet 19A
Checking Subtraction by Adding

Name _____

One of the simplest ways to check subtraction is to add the answer to the bottom number of the problem and see if it adds up to the top number:

As you can see, you subtract ↓ DOWN; but you add ↑ UP to see if your subtraction was correct. When you add up to check your subtraction and the top number is different than the original top number, you need to re-do your subtraction.

Check these subtraction problems by adding up ↑ :

7 -3 5	? 3 +5	3 + 5 = 8, not 7, so the problem was wrong.
10 - 2 8	? 8 +2	8 + 2 = 10, which is the top number, so this problem was correct.

Instructions: Check the subtraction problems on this page by adding ↑ up. If a problem is wrong, cross out the wrong answer and write the correct answer below it.

Examples:

128
- 99
29
(this answer was right - no correction needed)

1028
- 879
~~159~~
149
(this answer was wrong, so it was corrected)

65 - 26 39	7 -6 ~~2~~ 1	99 - 84 15	10 - 4 ~~7~~ 6
104 - 68 ~~46~~ 36	212 -144 68	44 -18 26	17 - 8 9
16 -14 ~~3~~ 2	26 -10 16	48 -19 ~~39~~ 29	144 -122 22
898 -146 ~~742~~ 752	72 -38 34	99 -66 33	196 78 118

CHECK SHEET
Whole Numbers - Subtraction
Activity Sheet 19A, Continued
Checking Subtraction By Adding

1183 - 647 536	6139 -4350 1789	43 -16 27	7172 -1691 ~~5461~~ 5481
13 - 9 4	89 -42 47	723 -418 ~~203~~ 305	1 -1 ~~1~~ 0

CHECK SHEET

Whole Numbers ÷ Subtraction Name _____

Activity Sheet 20A

Practice Numbers in Rows: Subtraction

Here are several problems arranged in rows for you to try. Sometimes you will have to borrow numbers and sometimes you will not.

Instructions: Subtract the numbers in the problems on this page, and put your answers to the right of the equals sign. Sometimes you will need to borrow numbers. Write the numbers you get when you borrow above the proper number of the problem.

Examples:	$\overset{1\ 13\ 11}{2\ 4\ 1} - 56 = 185$	$879 - 642 = 237$	$1\ 0\ \overset{7\ 16}{8\ 6} - 807 = 279$
	$84 - 22 = 62$	$689 - 29 = 660$	$290 - 14 = 276$
	$92 - 68 = 24$	$353 - 86 = 267$	$76 - 33 = 43$
	$97 - 31 = 66$	$6854 - 131 = 6723$	$556 - 545 = 11$
	$85 - 69 = 16$	$41 - 33 = 8$	$51 - 18 = 33$
	$610 - 183 = 427$	$972 - 748 = 224$	$34 - 24 = 10$
	$443 - 167 = 276$	$888 - 799 = 89$	$446 - 175 = 271$
	$688 - 633 = 55$	$380 - 324 = 56$	$72 - 38 = 34$
	$71 - 4 = 67$	$100 - 6 = 94$	$468 - 23 = 445$
	$56 - 36 = 20$	$84 - 78 = 6$	$3035 - 29 = 3006$
	$891 - 15 = 876$	$903 - 14 = 889$	$8734 - 586 = 8148$

CHECK SHEET
Whole Numbers - Subtraction
Activity Sheet 21A
Practice Numbers in Columns: Subtraction

Name _____

Try your new skill at subtracting all kinds of problems in columns. Sometimes you will have to borrow and sometimes you will not.

Instructions: Subtract the numbers in the problems on this page, and put your answers below the lines. Sometimes you will need to borrow. Write the numbers you get when you borrow above the proper columns.

Examples:

$$\begin{array}{r} {\scriptstyle 1\ 13\ 11} \\ 2\ \not{4}\ 1 \\ -\ 5\ 6 \\ \hline 1\ 8\ 5 \end{array} \qquad \begin{array}{r} 8\ 7\ 9 \\ -\ 6\ 4\ 2 \\ \hline 2\ 3\ 7 \end{array} \qquad \begin{array}{r} {\scriptstyle 7\ 16} \\ 1\ 0\ \not{8}\ \not{6} \\ -\ 8\ 0\ 7 \\ \hline 2\ 7\ 9 \end{array}$$

76 -33 43	71 - 4 67	888 - 95 793	18 -11 7	97 -31 66
981 - 15 966	100 - 6 94	446 -175 271	610 -183 427	6854 - 131 6723
903 - 14 889	468 -166 302	688 -460 228	748 - 57 691	556 -545 11
871 - 93 778	56 - 3 53	387 - 98 289	34 -24 10	85 -69 16
290 - 51 239	84 -74 10	38 -13 25	442 -199 243	41 -33 8
6885 - 598 6287	3812 - 156 3656	695 - 37 658	1009 - 578 431	484 - 87 397
8902 -2110 6792	939 - 99 840	4033 -1324 2709	321 -123 198	313 -157 156

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 22A
Multiplying Two One-Digit Numbers: Columns

Name _____

The numbers from 0 to 9 are called one-digit numbers. Here are some problems in which you must multiply two one-digit numbers together. They are arranged in columns, that is, with one number over the other.

Instructions: Multiply each column of one-digit numbers and write the answer below the line.

Examples:

1	8	9
x4	x3	x0
4	24	0

1 x 5 5	1 x 8 8	7 x 4 28	5 x 8 40	1 x 5 5
0 x 9 0	4 x 8 32	7 x 9 63	7 x 6 42	1 x 0 0
6 x 7 42	3 x 3 9	4 x 2 8	7 x 7 49	9 x 3 27
6 x 6 36	3 x 8 24	8 x 6 48	5 x 7 35	7 x 3 21
8 x 0 0	7 x 7 49	0 x 7 0	4 x 6 24	0 x 9 0
8 x 4 32	2 x 0 0	2 x 4 8	5 x 1 5	1 x 5 5
8 x 9 72	1 x 1 1	9 x 5 45	2 x 3 6	9 x 9 81
0 x 3 0	7 x 4 28	0 x 4 0	6 x 0 0	6 x 8 48

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 23A
Multiplying Two One-Digit Numbers: Rows

Name _____

In these problems, the one-digit numbers are arranged in rows.

Instructions: Multiply each row of one-digit numbers and write the answer to the right of the equals (=) sign.

Examples: 1 x 4 = 4 8 x 3 = 24 9 x 0 = 0

1 x 5 = 5	1 x 0 = 0	9 x 3 = 27	7 x 3 = 21
0 x 9 = 0	1 x 6 = 6	9 x 9 = 81	6 x 8 = 48
6 x 0 = 0	2 x 3 = 6	5 x 1 = 5	4 x 6 = 24
5 x 7 = 35	7 x 7 = 49	7 x 6 = 42	5 x 8 = 40
7 x 4 = 28	7 x 9 = 63	4 x 2 = 8	8 x 6 = 48
0 x 7 = 0	2 x 4 = 8	9 x 5 = 45	0 x 4 = 0
7 x 4 = 28	1 x 1 = 1	2 x 0 = 0	7 x 7 = 49
3 x 8 = 24	3 x 3 = 9	4 x 8 = 32	1 x 8 = 8
3 x 4 = 12	2 x 5 = 10	6 x 7 = 42	6 x 6 = 36
8 x 0 = 0	8 x 4 = 32	8 x 9 = 72	0 x 3 = 0

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 24A
Multiplying one Digit Times Two Digits: Column

Name _____

When you have bigger numbers to multiply, you multiply them together from right to left. For instance, if you want to multiply:

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline \end{array}$$

you must first multiply the right hand column, the 1 and the 3. This gives you 3 in the right-hand answer space.

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline 3 \end{array}$$

Then you multiply the number on the bottom right times the number in the left hand column. 2 x 3 = 6. This gives you:

$$\begin{array}{r} 21 \\ \times\ 3 \\ \hline 63 \end{array}$$

and that is the solution to the problem.

Instructions: Multiply the numbers in the problems on this page and write you answers below the line. Remember to multiply the right-hand column first.

Examples:

$$\begin{array}{r} 40 \\ \times\ 3 \\ \hline 120 \end{array} \qquad \begin{array}{r} 92 \\ \times\ 3 \\ \hline 276 \end{array} \qquad \begin{array}{r} 20 \\ \times\ 7 \\ \hline 140 \end{array}$$

$\begin{array}{r} 41 \\ \times\ 3 \\ \hline 123 \end{array}$	$\begin{array}{r} 66 \\ \times\ 1 \\ \hline 66 \end{array}$	$\begin{array}{r} 37 \\ \times\ 1 \\ \hline 37 \end{array}$	$\begin{array}{r} 13 \\ \times\ 1 \\ \hline 13 \end{array}$	$\begin{array}{r} 20 \\ \times\ 2 \\ \hline 40 \end{array}$
$\begin{array}{r} 14 \\ \times\ 2 \\ \hline 28 \end{array}$	$\begin{array}{r} 90 \\ \times\ 6 \\ \hline 540 \end{array}$	$\begin{array}{r} 30 \\ \times\ 2 \\ \hline 60 \end{array}$	$\begin{array}{r} 11 \\ \times\ 6 \\ \hline 66 \end{array}$	$\begin{array}{r} 45 \\ \times\ 1 \\ \hline 45 \end{array}$
$\begin{array}{r} 93 \\ \times\ 3 \\ \hline 279 \end{array}$	$\begin{array}{r} 90 \\ \times\ 8 \\ \hline 720 \end{array}$	$\begin{array}{r} 62 \\ \times\ 4 \\ \hline 248 \end{array}$	$\begin{array}{r} 23 \\ \times\ 2 \\ \hline 46 \end{array}$	$\begin{array}{r} 51 \\ \times\ 0 \\ \hline 0 \end{array}$
$\begin{array}{r} 92 \\ \times\ 4 \\ \hline 368 \end{array}$	$\begin{array}{r} 90 \\ \times\ 4 \\ \hline 360 \end{array}$	$\begin{array}{r} 71 \\ \times\ 9 \\ \hline 639 \end{array}$	$\begin{array}{r} 40 \\ \times\ 8 \\ \hline 320 \end{array}$	$\begin{array}{r} 83 \\ \times\ 3 \\ \hline 249 \end{array}$

CHECK SHEET

Whole Numbers - Multiplication
Activity Sheet 24A
Multiplying Two-Digit Numbers: Column (Continued)

46 x 0 0	22 x 3 66	91 x 5 455	73 x 0 0	60 x 3 180
20 x 2 40	42 x 4 168	34 x 2 68	81 x 7 567	92 x 4 368

CHECK SHEET

Whole Numbers - Multiplication

Activity Sheet 25A

Multiplying Two-Digit Numbers: Rows

Name _____

Multiplying numbers side-by-side is a little bit tricky. The numbers aren't lined up in columns for you. But if you remember to work from the right to the left, it isn't hard. In the problem 21 x 3 = _____, you first multiply the right-hand numbers (the numbers in the ones place), and write down the answer on the right side of your answer space, like this: 21 x 3 = ___3___ (because 1 x 3 = 3). Then multiply your right-hand number times the number in the tens place, the 3 times the 2 and write your answer to the left of the answer you got before, like this: 21 x 3 = 63. This is your answer.

Instructions: Multiply the numbers in the problems on this page and write down your answers to the right of the equals signs.

Examples: 40 x 3 = 120 92 x 4 = 368 20 x 0 = 0

41 x 3 = 123	66 x 1 = 66	37 x 1 = 37	13 x 1 = 13
20 x 2 = 40	42 x 3 = 126	51 x 0 = 0	83 x 3 = 249
60 x 3 = 180	92 x 4 = 368	93 x 0 = 0	73 x 3 = 219
64 x 2 = 128	20 x 4 = 80	81 x 5 = 405	22 x 4 = 88
10 x 7 = 70	20 x 7 = 140	46 x 0 = 0	92 x 3 = 276
14 x 2 = 28	90 x 6 = 540	30 x 2 = 60	12 x 4 = 48
23 x 2 = 46	40 x 8 = 320	73 x 0 = 0	81 x 7 = 567
21 x 3 = 63	54 x 2 = 108	51 x 4 = 204	42 x 4 = 168

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 26A
Carrying: Numbers in a Column (Continued)

Name _____

54 x 9 = 486	88 x 4 = 352	14 x 7 = 98	98 x 6 = 588	56 x 7 = 392
72 x 9 = 648	65 x 8 = 520	44 x 4 = 176	57 x 3 = 171	62 x 8 = 496
69 x 6 = 414	59 x 2 = 118	87 x 9 = 783	48 x 6 = 288	45 x 7 = 315
67 x 3 = 201	87 x 4 = 348	25 x 8 = 200	66 x 4 = 264	55 x 7 = 385
39 x 3 = 117	65 x 7 = 455	43 x 9 = 387	16 x 8 = 128	99 x 4 = 396
34 x 7 = 238	15 x 5 = 75	13 x 7 = 91	99 x 4 = 396	66 x 5 = 330
15 x 7 = 105	26 x 5 = 130	53 x 7 = 371	17 x 5 = 85	59 x 8 = 472
35 x 6 = 210	87 x 7 = 609	68 x 3 = 204	84 x 9 = 756	65 x 6 = 390

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 27A
Multiplying Two-Digit Numbers

Name _____

Instructions: Multiply the numbers in the problems below. Make sure you line up the "ones" answer under the ones place, and the "tens" under the tens place, then add them straight down.

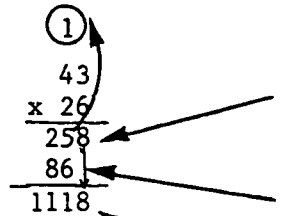
41 x 43 = 1763	66 x 61 = 4026	37 x 51 = 1887	13 x 81 = 1053	20 x 32 = 640
14 x 72 = 1008	90 x 16 = 1440	30 x 82 = 2460	11 x 66 = 726	45 x 31 = 1395
93 x 93 = 8649	90 x 18 = 1620	62 x 24 = 1488	23 x 12 = 276	51 x 10 = 510
92 x 84 = 7728	90 x 44 = 3960	71 x 29 = 2059	40 x 88 = 3520	83 x 83 = 6889
46 x 40 = 1840	22 x 43 = 946	91 x 65 = 5915	73 x 62 = 4526	60 x 93 = 5580
20 x 92 = 1840	42 x 24 = 1008	34 x 12 = 408	81 x 87 = 7047	92 x 74 = 6808

CHECK SHEET

Whole Numbers - Multiplication
Activity Sheet 28A
Carrying: Two Digit Numbers

Name _____

In the last two worksheets you learned how to multiply two digit numbers, and how to carry numbers over to the next columns. For a lot of problems, you will have to do both things. Here is an example:

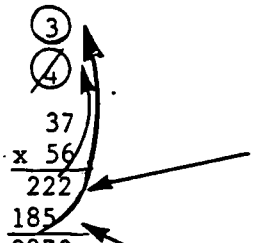


6 x 3 = 18, put down the 8 and carry the 1. 6 x 4 = 24, plus the 1 you carried = 25. Your "ones" answer is 258.

2 x 3 = 6, and 2 x 4 = 8. Your "tens" answer is 86.

8 + nothing = 8, 5 + 6 = 11, put down the 1 and carry a 1, 2 + 8 + the 1 you carried = 11. Your final answer is 1118.

Now work through this problem, step by step:



6 x 7 = 42, put down the 2 and carry the 4. 6 x 3 = 18, plus the 4 you carried = 22. Your "ones" answer is 222.

5 x 7 = 35, put down the 5 and carry the 3. (You could erase the old "4" you carried before or cross it out.) 5 x 3 = 18, plus the 3 you just now carried = 18. Your "tens" answer is 185.

2 + nothing = 2, 2 + 5 = 7, 2 + 8 = 10, put down the 0 and carry the 1, 1 + the 1 you carried = 2. Your final answer is 2072.

Instructions: Multiply the numbers in the problems on these pages. Make sure you line up the answers correctly. Remember to carry numbers over to the next column when you need to.

65 x 26 = 1690	84 x 99 = 8316	68 x 43 = 2924	87 x 17 = 1479	35 x 56 = 1960
59 x 28 = 1652	17 x 45 = 765	53 x 37 = 1961	26 x 25 = 650	15 x 27 = 405

CHECK SHEET

Whole Numbers - Multiplication

Activity Sheet 28A

Carrying: Two Digit Numbers (Continued)

Name _____

65 x 55 = 3575	99 x 54 = 5346	13 x 47 = 611	15 x 35 = 525	34 x 67 = 2278
99 x 14 = 1386	16 x 89 = 1424	41 x 29 = 1189	65 x 97 = 6305	39 x 93 = 3627
55 x 97 = 5335	66 x 24 = 1584	25 x 98 = 2450	87 x 24 = 2088	67 x 83 = 5561
45 x 67 = 3015	48 x 56 = 2688	87 x 29 = 2523	59 x 51 = 3009	69 x 46 = 3174
62 x 18 = 1116	57 x 73 = 4161	49 x 44 = 2156	65 x 48 = 3120	78 x 59 = 4602
56 x 87 = 4872	98 x 96 = 9408	14 x 37 = 518	88 x 64 = 5632	54 x 29 = 1566

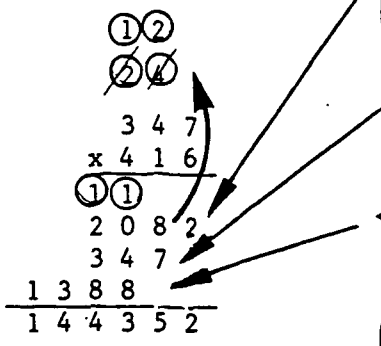
CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 29A
Multiplying Three Digit Numbers

Name _____

In these problems you are multiplying bigger numbers. You may have to carry numbers over to the next column. Also, you need to do the problem in three steps:

(1) multiply the ones place
(2) multiply the tens place
(3) multiply the hundreds place

Work through this example step by step:



6 x 7 = 42, write down the 2 and carry the 4. 6 x 4 = 24 plus the 4 you carried = 28, write down 8 and carry 2. 6 x 3 = 18 plus the 2 you carried = 20. Your "ones" answer is 2082.

1 x 7 = 7. 1 x 4 = 4. 1 x 3 = 3. Your "tens" answer is 347.

4 x 7 = 28, write down 8 and carry 2. 4 x 4 = 16, plus the 2 you carried = 18, write down 8 and carry 1. 4 x 3 = 12 plus the 1 you carried = 13. Your "hundreds" answer is 1388.

2 + nothing = 2. 8 + 7 = 15, write down 5 and carry 1. 8 + 4 plus the 1 you carried = 13, put down the 3 and carry the 1. 2 + 3 + 8 plus the 1 you carried = 14, put down the 4 and carry the 1. 3 + the 1 you carried = 4. 1 + nothing = 1. Your final answer is 144352.

Instructions: Multiply the numbers on this page. Make sure you line up the answers correctly. Remember to carry numbers over to the next column when you need to.

197	834	391	554	909
x 217	x 635	x 566	x 109	x 435
42749	529590	221306	60386	395415

854	592	225	101	345
x 834	x 102	x 270	x 117	x 302
712236	60384	60750	11817	104190

CHECK SHEET
Whole Numbers - Multiplication
Activity Sheet 29A
Multiplying Three Digit Numbers (Continued)

Name _____

506 x 954 = 482724	714 x 785 = 560490	523 x 929 = 485867	379 x 500 = 189500	978 x 569 = 556482
195 x 594 = 115830	813 x 804 = 653652	590 x 491 = 289690	357 x 920 = 328440	368 x 822 = 302496
658 x 246 = 161868	505 x 327 = 165135	342 x 122 = 41724	701 x 484 = 339284	320 x 465 = 148800
108 x 994 = 107352	135 x 599 = 80865	131 x 206 = 26986	760 x 939 = 713640	268 x 182 = 48776

CHECK SHEET
Whole Numbers - Division
Activity Sheet 30A, Continued
Dividing and Multiplying are Related

Name _____

$2\overline{)10}$ $\quad 5$ $\quad 2 \times 5 = 10$

$2\overline{)36}$ $\quad 18$ $\quad 2 \times 18 = 36$

$6\overline{)48}$ $\quad 8$ $\quad 6 \times 8 = 48$

$14 \div 7 = 2 \quad 7 \times 2 = 14$

$84 \div 7 = 12 \quad 7 \times 12 = 84$

$16 \div 8 = 2 \quad 8 \times 2 = 16$

$3\overline{)9}$ $\quad 3$ $\quad 3 \times 3 = 9$

$7\overline{)35}$ $\quad 5$ $\quad 7 \times 5 = 35$

$5\overline{)30}$ $\quad 6$ $\quad 5 \times 6 = 30$

$56 \div 7 = 8 \quad 7 \times 8 = 56$

$63 \div 9 = 7 \quad 9 \times 7 = 63$

$27 \div 3 = 9 \quad 3 \times 9 = 27$

$4\overline{)28}$ $\quad 7$ $\quad 4 \times 7 = 28$

$78 \div 6 = 13 \quad 6 \times 13 = 78$

$4\overline{)24}$ $\quad 6$ $\quad 4 \times 6 = 24$

$40 \div 5 = 8 \quad 5 \times 8 = 40$

$7\overline{)84}$ $\quad 12$ $\quad 7 \times 12 = 84$

$35 \div 7 = 5 \quad 7 \times 5 = 35$

$8\overline{)16}$ $\quad 2$ $\quad 8 \times 2 = 16$

$30 \div 5 = 6 \quad 5 \times 6 = 30$

$7\overline{)14}$ $\quad 2$ $\quad 7 \times 2 = 14$

CHECK SHEET
Whole Numbers
Activity Sheet 31A
Dividing One Digit Into One or Two

Name_____

Instructions: Divide the smaller number into the larger number in the problems below. Remember that there are two "symbols" for dividing. $5\overline{)10}$ and $10 \div 5$, both mean the same thing: divide 5 into 10. Put the answer to the right of the equals (=) sign, or above the line.

$1 \div 1 = 1$	$2 \div 2 = 1$	$4 \div 2 = 2$	$10 \div 5 = 2$
$9 \div 3 = 3$	$8 \div 2 = 4$	$4 \div 4 = 1$	$12 \div 2 = 6$
$10 \div 2 = 5$	$6 \div 3 = 2$	$6 \div 2 = 3$	$9 \div 9 = 1$
$3\overline{)9}$	$2\overline{)4}$	$5\overline{)10}$	$2\overline{)4}$
$4\overline{)4}$	$5\overline{)5}$	$2\overline{)8}$	$2\overline{)6}$
$2\overline{)16}$	$3\overline{)15}$	$4\overline{)16}$	$3\overline{)12}$
$5\overline{)15}$	$3\overline{)18}$	$6\overline{)24}$	$8\overline{)24}$
$3\overline{)27}$	$4\overline{)28}$	$7\overline{)14}$	$9\overline{)36}$

CHECK SHEET
Whole Numbers - Division
Activity Sheet 32A _____
Converting from ÷ to /
Continued

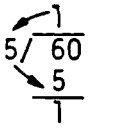
Name_____

ANSWER SHEET

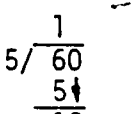
	A	B	C	D
1.			X	
2.	X			
3.	X			
4.				X
5.			X	
6.				X
7.		X		
8.	X			
9.	X			
10.				X
11.		X		
12.				X
13.			X	
14.				X
15.	X			
16.		X		
17.			X	
18.			X	
19.				X
20.	X			

CHECK SHEET
Whole Numbers - Division
Activity Sheet 33A
Dividing One Digit Into Two Digits

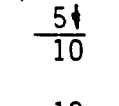
Name_____



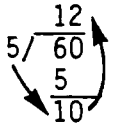
Second, multiply 1 x 5. It equals 5. Subtract this from 6 and your remainder is 1.



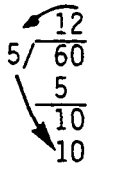
Bring down the next digit, the 0.



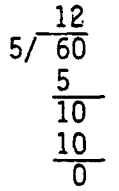
Divide 5 into the new number, which is 10, and put the answer up above.



Check for a remainder. Multiply 2 x 5; your answer is 10. Put this at the bottom.



10 - 10 = 0, so there is no remainder.



Instructions: Work the problems on this page. You will see two kinds of problems. One kind looks like this:

$2\overline{)88}$

The other looks like this: $88 \div 2 =$

Whenever you see the second kind of problem, change it to the first kind, like this:

$88 \div 2 =$ ⟶ $2\overline{)88}$ $\qquad$ $25 \div 5 =$ ⟶ $5\overline{)25}$

Then go ahead and solve the problem using the long division method.

$3\overline{)66}$	$9\overline{)90}$	$6\overline{)30}$	$3\overline{)12}$	$1\overline{)33}$
$4\overline{)16}$	$2\overline{)10}$	$3\overline{)36}$	$8\overline{)80}$	$6\overline{)24}$

CHECK SHEET
Whole Numbers - Division
Activity Sheet 33A, Continued
Dividing One Digit Into Two Digits

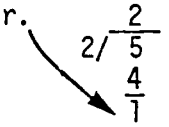
Name_____

40 ÷ 8	88 ÷ 4	64 ÷ 8	70 ÷ 5	45 ÷ 9
$8\overline{)40}$	$4\overline{)88}$	$8\overline{)64}$	$5\overline{)70}$	$9\overline{)45}$
$9\overline{)81}$	$8\overline{)72}$	$6\overline{)36}$	$6\overline{)66}$	$7\overline{)56}$
$7\overline{)42}$	$5\overline{)65}$	$4\overline{)64}$	$3\overline{)54}$	$6\overline{)72}$
33 ÷ 3	45 ÷ 5	18 ÷ 3	15 ÷ 3	96 ÷ 8
$3\overline{)33}$	$5\overline{)45}$	$3\overline{)18}$	$3\overline{)15}$	$8\overline{)96}$

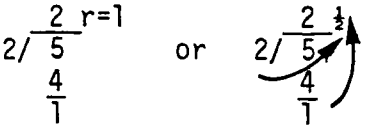
CHECK SHEET
Whole Numbers - Division
Activity Sheet 34A
Dividing One Digit Into Two With
A Remainder

Name_____

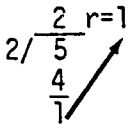
When you divide one number into another, and you have something extra left over, that something extra is called the remainder.



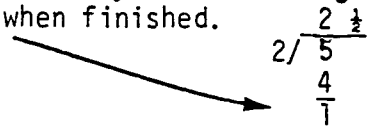
This remainder can be written two ways:



In method ① you just write "r=", then take the remainder and put it after the (=) sign like this:

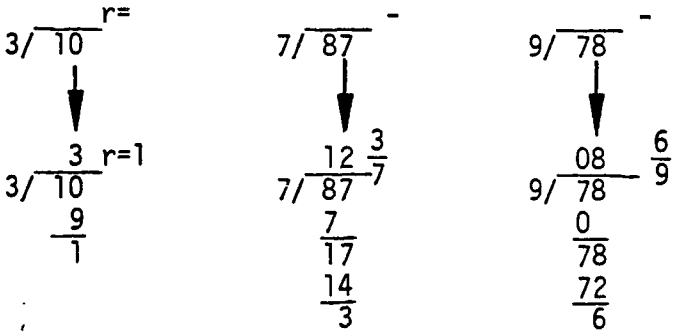


In method ② you take the remainder and set it over the number you're dividing with, in this case 2. The whole problem will look like this when finished.



Instructions: Divide the single digit numbers into the two digit numbers in each problem; then put the remainder into the form indicated.

Examples:



8 r= 1 8/ 65	14 r=0 6/ 84	4 r=5 7/ 33	29r= 2 3/ 89	19 r= 4 5/ 99
8 6/9 9/78	9 1/5 5/ 46	3 4/5 5/ 19	26 1/2 2/ 53	28 0/1 1/ 28

CHECK SHEET

While Numbers - Division
Activity Sheet 34A, Continued
Dividing One Digit Into Two With
A Remainder

Name_____

$6/\overline{37}\ 6\frac{1}{6}$	$3/\overline{47}\ 15\frac{2}{3}$	$4/\overline{94}\ 23\frac{2}{4}$	$7/\overline{58}\ 8\frac{2}{7}$	$8/\overline{17}\ 2\frac{1}{8}$
$9/\overline{83}\ 9$ r= 2	$4/\overline{27}\ 6$ r=3	$7/\overline{69}\ 9$ r=6	$6/\overline{76}\ 12$ r=4	$5/\overline{73}\ 14$ r= 3
$2/\overline{63}\ 31\frac{1}{2}$	$7/\overline{24}\ 3\frac{3}{7}$	$3/\overline{97}\ 32\frac{1}{3}$	$5/\overline{86}\ 17\frac{1}{5}$	$8/\overline{31}\ 3\frac{7}{8}$

CHECK SHEET

Whole Numbers - Division
Activity Sheet 35A
Dividing Two Digits into Three Digits

Name _____

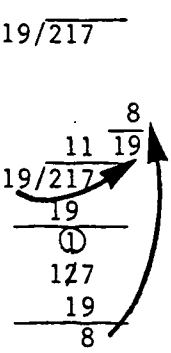
On these pages you will be dividing two digit numbers into three digit numbers. This is the same as dividing a one digit number into a two digit number. You will divide from left to right, carry, and write remainders.

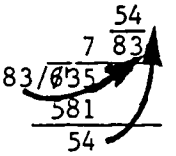
Instructions: Divide the numbers into each other and put the answers in the right places. Remember! Whenever you a see problem with a (÷) in it, you can write the problem over again using a (/) sign so it is easier to work.

Examples:

217 ÷ 19 =

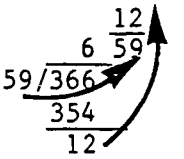
19/217





366 ÷ 59 =

59/366



109 ÷ 55 = 1 r=54 or $1\frac{54}{55}$	435 ÷ 90 = 4 r=75 or $4\frac{75}{90}$	834 ÷ 85 = 9 r=69 or $9\frac{69}{85}$	102 ÷ 59 = 1 r=43 or $1\frac{43}{59}$
12 r=6 22/270 or $12\frac{6}{22}$	11 r=7 10/117 or $11\frac{7}{10}$	8 r=30 34/302 or $8\frac{30}{34}$	19 r=4 50/954 or $19\frac{4}{50}$
785 ÷ 71 = 11 r=4 or $11\frac{4}{71}$	929 ÷ 52 = 17 r=45 or $17\frac{45}{52}$	500 ÷ 37 = 13 r=19 or $13\frac{19}{37}$	569 ÷ 97 = 5 r=84 or $5\frac{84}{97}$
31 r=5 19/594 or $31\frac{5}{19}$	9 r=75 81/804 or $9\frac{75}{81}$	10 r=1 59/591 or $10\frac{1}{59}$	26 r=10 35/920 or $26\frac{10}{35}$
23 r=17 35/822 or $23\frac{17}{35}$	3 r=51 65/246 or $3\frac{51}{65}$	15 r=27 32/507 or $15\frac{27}{32}$	28 r=6 12/342 or $28\frac{6}{12}$

CHECK SHEET

Whole Numbers - Division

Activity Sheet 36A

Dividing Three Digits into Four Digits

Name _____

In this lesson you will divide three digit numbers into four digit numbers. You do this the same way that you divide a two digit number into a three digit number. You divide from from left to right, carry, and write remainders.

Instructions: Divide these numbers into each other and put the answers in the correct places. Do not forget to change the (÷) problems to (/) problems.

Examples:

3471 ÷ 416

416/3471

8 143/416

3328

143

8 444

20

444/8888

888

0008

0000

8

9545 ÷ 175 =

175/9545

54 95/175

875

795

705

95

4371 ÷ 509 =	3035 ÷ 156 =	8768 ÷ 246 =	8513 ÷ 313 =
8 299/509	19 71/156	35 158/246	27 62/313
509/4371	156/3035	246/8768	313/8513
2 41/484	7 213/271	46 86/100	12 91/101
484/1009	271/2110	100/4686	101/1303
4318 ÷ 491	994 ÷ 801	5995 ÷ 135	2061 ÷ 133
8 390/491	1 193/801	44 55/135	15 66/133
491/4318	801/994	135/5995	133/2061
11 0/714	13 82/379	1 21/978	20 6/333
714/7854	379/5009	978/999	333/6666
22 132/368	12 6/225	9 41/109	12 230/390
368/8228	225/2706	109/1022	390/4910

Name _____

MODULE PREVIEW/REVIEW

FRACTIONS

Instructions: Choose the correct answer to each question below. Mark the space under the letter of the correct answer on your answer sheet. Use scratch paper to help you work the problems.

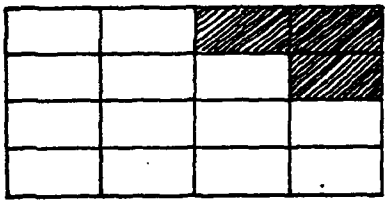
Example: $2\frac{4}{5} =$ a) $\frac{12}{5}$ c) $\frac{14}{5}$ b) $\frac{24}{5}$ d) $\frac{8}{20}$

ANSWER SHEET

A	B	C	D
☐	☐	■	☐

---

1. What fraction of this figure is shaded?



a) $\frac{3}{8}$ c) $\frac{1}{2}$ b) $\frac{13}{16}$ d) $\frac{3}{16}$

2. Which of these is an improper fraction?

a) $\frac{3}{4}$ c) $\frac{9}{7}$ b) $2\frac{1}{8}$ d) $1\frac{17}{22}$

3. $4\frac{3}{11} =$ a) $\frac{47}{11}$ c) $\frac{12}{11}$ b) $\frac{15}{11}$ d) $\frac{43}{11}$

4. $\frac{21}{24} =$ a) $2\frac{1}{24}$ c) $1\frac{2}{24}$ b) $\frac{7}{8}$ d) $\frac{7}{12}$

Name _____

5. $\frac{21}{13}$ =

a) $1\frac{4}{5}$ c) $1\frac{8}{13}$

b) $2\frac{8}{13}$ d) $2\frac{4}{5}$

6. The common denominator of $\frac{5}{6}$ and $\frac{2}{5}$

a) 13 c) 19

b) 30 d) 7

7. $\frac{9}{23} + \frac{16}{23}$ =

a) $1\frac{2}{23}$ c) $\frac{25}{46}$

b) $\frac{154}{529}$ d) $1\frac{7}{46}$

8. $\frac{2}{9} + \frac{3}{7}$ =

a) $\frac{41}{63}$ c) $\frac{5}{63}$

b) $\frac{41}{16}$ d) $\frac{5}{16}$

9. $1\frac{3}{8} + 1\frac{1}{6}$ =

a) $4\frac{1}{14}$ c) $2\frac{4}{14}$

b) $2\frac{13}{48}$ d) $2\frac{13}{24}$

10. $\frac{11}{12} - \frac{5}{12}$

a) $\frac{16}{12}$ c) $\frac{1}{2}$

b) 6 d) $\frac{16}{24}$

11. $\frac{1}{3} - \frac{1}{7}$ =

a) $\frac{1}{21}$ c) $\frac{2}{21}$

b) $\frac{4}{21}$ d) $\frac{1}{10}$

Name _____

12. $3\frac{2}{3} - 1\frac{3}{4} =$

a) $1\frac{11}{12}$ c) $2\frac{11}{12}$

b) $2\frac{1}{12}$ d) $1\frac{5}{7}$

13. $\frac{12}{15} \times \frac{9}{16} =$

a) $\frac{3}{5} \times \frac{3}{4}$ c) $\frac{4}{15} \times \frac{3}{16}$

b) $\frac{12}{5} \times \frac{9}{4}$ d) $\frac{1}{5} \times \frac{1}{4}$

14. $5 \times \frac{6}{11} =$

a) $\frac{30}{55}$ c) $2\frac{8}{11}$

b) 1 d) $3\frac{10}{11}$

15. $\frac{5}{11} \times \frac{3}{10} =$

a) $\frac{15}{11}$ c) $\frac{8}{110}$

b) $\frac{8}{21}$ d) $\frac{3}{22}$

16. $1\frac{1}{4} \times 3\frac{2}{10} =$

a) $\frac{7}{40}$ c) 4

b) $4\frac{1}{5}$ d) $\frac{32}{40}$

17. $\frac{4}{9} \div \frac{2}{7} =$

a) $\frac{2}{5}$ c) $\frac{8}{63}$

b) $1\frac{5}{9}$ d) $\frac{3}{7}$

Name _____

18. $3 \div \frac{3}{8} =$

a) $\frac{9}{8}$ c) 8

b) $3\frac{5}{16}$ d) $\frac{3}{24}$

19. $4\frac{2}{3} \div 1\frac{1}{4} =$

a) $3\frac{11}{15}$ c) $5\frac{3}{12}$

b) $6\frac{2}{7}$ d) $\frac{15}{56}$

20. $\frac{5}{6} =$

a) 5.658 c) .8333

b) .5656 d) 8.356

Fractions
Module Preview/Review
Answer Sheet

Name _____

	A	B	C	D
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐
16.	☐	☐	☐	☐
17.	☐	☐	☐	☐
18.	☐	☐	☐	☐
19.	☐	☐	☐	☐
20.	☐	☐	☐	☐

ANSWER KEY/DIAGNOSTIC
Fractions
Module Preview/Review

Name _____

	A	B	C	D	IF WRONG, ASSIGN:
1.	☐	☐	☐	■	1
2.	☐	☐	■	☐	2
3.	■	☐	☐	☐	3
4.	☐	■	☐	☐	4
5.	☐	☐	■	☐	5
6.	☐	■	☐	☐	6
7.	■	☐	☐	☐	7
8.	■	☐	☐	☐	8
9.	☐	☐	☐	■	9, 4
10.	☐	☐	■	☐	10, 4
11.	☐	■	☐	☐	11
12.	■	☐	☐	☐	12
13.	■	☐	☐	☐	13
14.	☐	☐	■	☐	15
15.	☐	☐	☐	■	14, 4
16.	☐	☐	■	☐	16, 4, 5
17.	☐	■	☐	☐	17, 4, 5
18.	☐	☐	■	☐	18, 4, 5
19.	■	☐	☐	☐	19, 4, 5
20.	☐	☐	■	☐	20

Fractions
Module Record Sheet

Name _____

OBJECTIVE: Use addition, subtraction, multiplication, or division to find the correct answer for any problem with fractions.

SAMPLE TEST ITEMS:

1. $\frac{3}{4} \times \frac{9}{7} =$ a) $\frac{27}{28}$ c) $\frac{21}{36}$ b) $\frac{12}{11}$ d) $\frac{3}{7}$

a	b	c	d
■	□	□	□

2. $2\frac{1}{2} \div 1\frac{1}{3} =$ a) $1\frac{1}{6}$ c) $1\frac{7}{8}$ b) $3\frac{2}{3}$ d) $3\frac{5}{6}$

a	b	c	d
□	□	■	□

INTRODUCTION TO FRACTIONS:

Fractions are pieces of whole numbers. Sometimes they are combined with whole numbers to make "mixed numbers". To work with fractions, you need to be able to work correctly with whole numbers. If you cannot add, subtract, multiply, and divide whole numbers, you should study the Whole Numbers Module before trying to learn about fractions.

These activity sheets will show you how to add, subtract, multiply, and divide fractions. Work through all the activity sheets that have been circled on the back of this page. You can check your own work using the check sheets your teacher has shown you. If you have any questions about fractions, ask your teacher. When you are all through with all the activity sheets and are sure you understand all the rules for fractions, ask to take the Fractions Review.

Fractions
Module Record Sheet

Name _____

ACTIVITY SHEETS (Do those that are circled)

1.	What Is a Fraction?	1A	1B
2.	Types of Fractions	2A	2B
3.	Changing Mixed Numbers to Fractions	3A	3B
4.	Reducing Proper Fractions	4A	4B
5.	Reducing Improper Fractions	5A	5B
6.	Finding Common Denominators	6A	6B
7.	Adding Fractions with Common Denominators	7A	7B
8.	Adding Fractions with Different Denominators	8A	8B
9.	Adding Mixed Numbers	9A	9B
10.	Subtracting Fractions with Common Denominators	10A	10B
11.	Subtracting Fractions with Different Denominators	11A	11B
12.	Subtracting Mixed Numbers	12A	12B
13.	Cancelling	13A	13B
14.	Multiplying Fractions Times Fractions	14A	14B
15.	Multiplying Whole Numbers Times Fractions	15A	15B
16.	Multiplying Mixed Numbers	16A	16B
17.	Dividing Fractions by Fractions	17A	17B
18.	Dividing Whole Numbers by Fractions and Fractions by Whole Numbers	18A	18B
19.	Dividing Mixed Numbers by Mixed Numbers	19A	19B
20.	Converting Fractions to Decimals	20A	20B

Fractions
Activity Sheet 1A
What is a Fraction?

Name _____

In this lesson you will learn what fractions are. You will learn about numerators and denominators of fractions.

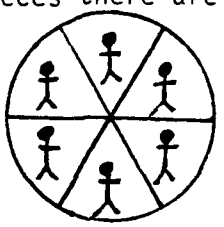
A fraction is a piece of something larger. For instance, you might be a fraction of a fire team because you are one of six men who belong to that whole group. You can say you are one of six men on the fire team, or you can say you are $\frac{1}{6}$ of the fire team. They mean the same thing. The number $\frac{1}{6}$ is a fraction.

A fraction is made up of a top number, called the numerator, and a bottom number, called the denominator.

$\frac{1}{6}$ ← numerator
← denominator

The denominator tells how many pieces there are in whatever you are talking about.

For instance, if you are $\frac{1}{6}$ of a fire team, that means there are 6 men in the whole fire team.

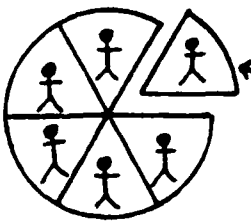


6 men in the whole fire team

The numerator tells how many of the pieces (or men or whatever) you have.

If you are $\frac{1}{6}$ of the fire team, that means you are one of six men in the whole fire team.

$\frac{1}{6}$ ← This means you have one of the six pieces out of the whole.



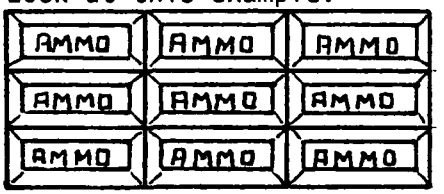
$\frac{1}{6}$ or one of the six pieces, (or men on the fire team)

Anything can be broken up into any number of equal-sized pieces. Then you can take out some of those pieces to make fractions. To make the fraction, you count the total number of pieces there are and put that in the denominator. Now you count the pieces you are taking out and put that in the numerator. Now you have your own, custom fraction.

Fractions (Continued)
Activity Sheet 1A
What is a Fraction?

Name _____

Look at this example:



This is a stack of ammo cases. There are 9 cases in the stack. If you take out <u>one</u> case, then what part of the stack do you have?

Remember, the <u>denominator</u> is the number of pieces in the whole. It is the number of cases in the stack. It equals <u>9</u>. → $\frac{\square}{9}$

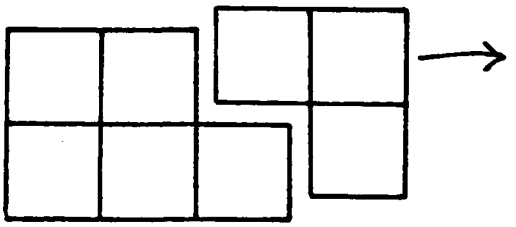
The <u>numerator</u> is the number of pieces, or the number of ammo cases, you took out of the stack. It equals <u>1</u>. → $\frac{1}{9}$

So your fraction is $\frac{1}{9}$. You took $\frac{1}{9}$ of the ammo cases out of the stack.

Instructions:

Look at the pictures below. Decide what <u>fraction</u> of the pieces are being taken away. Write down the fraction on the short line to the right of the picture.

Example:



$\frac{3}{8}$

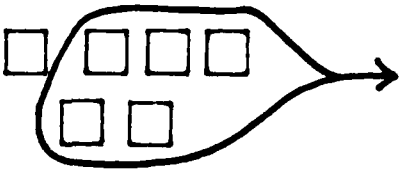
(because there are 8 pieces total, and you are taking away 3.)

1.

What fraction of tents were taken away?

ANSWERS

1. _____

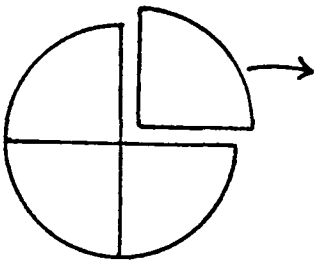
2. 

2. _____

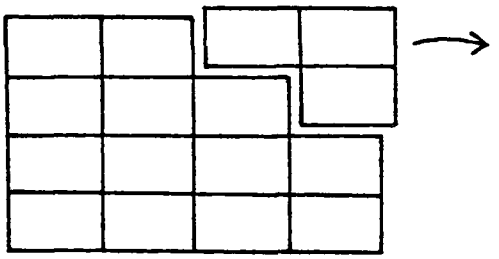
Fractions (Continued)
Activity Sheet 1A
What is a Fraction?

Name _____

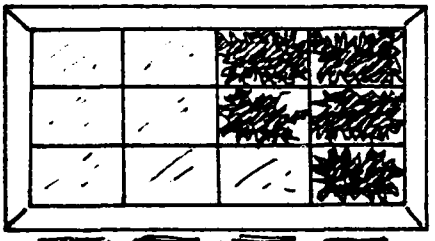
ANSWERS

3. 

3. _____

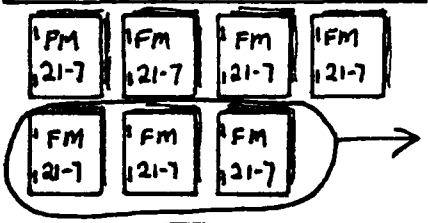
4. 

4. _____

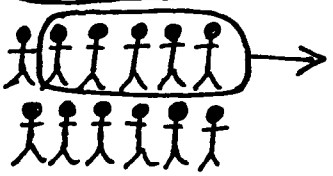
5. 

What fraction of window panes are broken?

5. _____

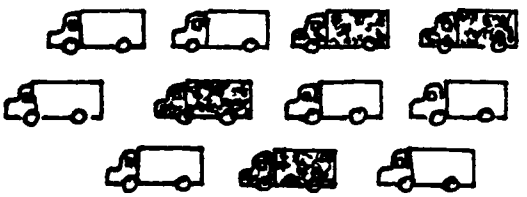
6. 

6. _____

7. 

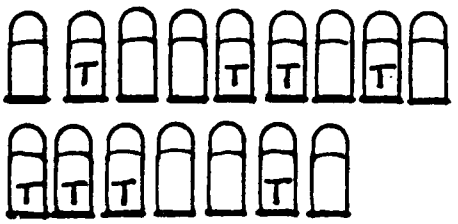
What fraction got volunteered for K.P.?

7. _____

8. 

What fraction of trucks are camouflage painted?

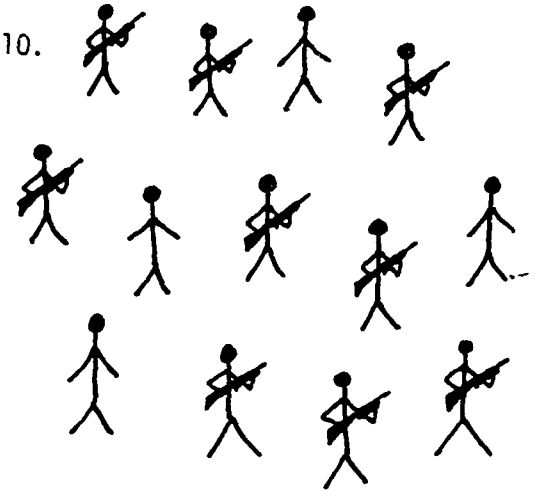
8. _____

9. 

What fraction of these rounds are tracers (marked with a T)?

9. _____

Name _____

10. 

What fraction of the men are carrying rifles? 10. _____

Fractions
Activity Sheet 2A
Types of Fractions

Name _____

In this activity you will learn to recognize the three different types of fractions: (1) proper fractions, (2) improper fractions, and (3) mixed numbers.

(1) Proper fractions are the most common. The way you can tell them is the numerator (top number) is always smaller than the denominator (bottom number).

Examples: $\frac{1}{6}$, $\frac{1}{2}$, $\frac{1}{3}$, $\frac{4}{9}$, $\frac{112}{113}$.

(2) Improper fractions are just the opposite of proper fractions. The way you can tell improper fractions is that the numerator is always larger than the denominator.

Examples: $\frac{3}{2}$, $\frac{5}{1}$, $\frac{7}{6}$, $\frac{113}{112}$, $\frac{14}{8}$.

(3) Mixed numbers are made up of a whole number and a fraction. The fraction part can be either proper or improper.

Examples: $2\frac{1}{3}$, $3\frac{1}{2}$, $7\frac{7}{6}$, $4\frac{3}{4}$, $189\frac{112}{115}$.

Now, see if you can pick out each type of fraction on the following problem sheet.

Instructions: Look at each of these fractions. Then mark whether it is (a) proper, (b) improper, or (c) mixed.

		Proper	Improper	Mixed
Example:	$\frac{2}{9}$	■	□	□
	$2\frac{3}{4}$	□	□	■

Fractions (Continued)
Activity Sheet 2A
Types of Fractions

Name _____

		Proper	Improper	Mixed			Proper	Improper	Mixed
1.	$\frac{1}{2}$	☐	☐	☐	11.	$\frac{8}{5}$	☐	☐	☐
2.	$\frac{2}{3}$	☐	☐	☐	12.	$7\frac{9}{10}$	☐	☐	☐
3.	$\frac{5}{6}$	☐	☐	☐	13.	$\frac{14}{8}$	☐	☐	☐
4.	$\frac{12}{9}$	☐	☐	☐	14.	$\frac{10}{11}$	☐	☐	☐
5.	$2\frac{1}{3}$	☐	☐	☐	15.	$\frac{11}{10}$	☐	☐	☐
6.	$\frac{7}{3}$	☐	☐	☐	16.	$\frac{3}{4}$	☐	☐	☐
7.	$\frac{3}{7}$	☐	☐	☐	17.	$\frac{9}{21}$	☐	☐	☐
8.	$\frac{4}{11}$	☐	☐	☐	18.	$17\frac{4}{5}$	☐	☐	☐
9.	$2\frac{5}{8}$	☐	☐	☐	19.	$\frac{16}{33}$	☐	☐	☐
10.	$\frac{5}{8}$	☐	☐	☐	20	$\frac{93}{92}$	☐	☐	☐

Fractions
Activity Sheet 3A
Changing Mixed Numbers to Fractions Name_____

You remember that there are two kinds of fractions. "Proper" fractions are fractions where the top number (numerator) is <u>smaller</u> than the bottom number (denominator).

$\frac{1}{4}$ $\frac{2}{3}$ $\frac{8}{17}$

"Improper" fractions are fractions where the top number is <u>larger</u> than the bottom number.

$\frac{8}{5}$ $\frac{19}{13}$ $\frac{6}{2}$

You also remember that a <u>mixed number</u> is made up of a whole number and a fraction.

$1\frac{7}{8}$ $14\frac{2}{3}$ $8\frac{9}{16}$

If you have mixed numbers that you want to add, subtract, multiply, or divide, it is often easier to do the problem if you change the mixed number to an <u>improper fraction</u>. Changing mixed numbers into improper fractions is easy.

First you multiply the bottom number in the fraction times the whole number.

$6\frac{2}{3}$

<u>Example</u>

$6\frac{2}{3}$

$6 \times 3 = 18$

Then you add the result (in this case 18) to the top number of the fraction.

$\frac{18 + 2 = 20}{3}$

↓

Now you have an improper fraction instead of a mixed number.

$\frac{20}{3}$

Instructions: Change these mixed numbers to improper fractions. (1) Multiply the denominator of the fraction times the whole number. (2) Add the result to the numerator of the fraction.

Examples: $2\frac{1}{3}$ $2 \times 3 = 6$ $\frac{6 + 1}{3} = \frac{7}{3}$

$9\frac{3}{8}$ $9 \times 8 = 72$ $\frac{73 + 3}{8} = \frac{75}{8}$

Fractions (Continued)
Activity Sheet 3A
Changing Mixed Numbers to Fractions

1. $5\frac{2}{3}$ =

2. $3\frac{5}{6}$ =

3. $4\frac{1}{8}$ =

4. $1\frac{6}{10}$ =

5. $2\frac{5}{9}$ =

6. $5\frac{3}{4}$ =

7. $7\frac{3}{8}$ =

8. $3\frac{1}{9}$ =

9. $4\frac{3}{11}$ =

10. $8\frac{5}{8}$ =

11. $6\frac{3}{4}$ =

12. $8\frac{1}{7}$ =

13. $19\frac{2}{3}$ =

14. $11\frac{1}{2}$ =

15. $57\frac{3}{4}$ =

Fractions
Activity Sheet 4A
Reducing Proper Fractions

Name_____

In this lesson you will learn to reduce fractions. You do this by dividing a number into the numerator (top number) and denominator (bottom number) of a fraction. This produces a fraction that is in its simplest form.

Reducing proper fractions takes some judgment. You start with 2 and try numbers (2, 3, 4, 5, etc.) until you find a number that will divide into both the numerator and denominator evenly. You keep doing that until you can't do it any more. At that point the fraction is reduced.

Examples:

1. $\frac{5}{10}$ $\frac{5 \div 5}{10 \div 5} = \frac{1}{2}$ because $5 \div 5 = 1$ and $10 \div 5 = 2$

2. $\frac{5}{50}$ $\frac{5 \div 5}{50 \div 5} = \frac{1}{10}$

3. $\frac{40}{200}$ $\frac{40 \div 4}{200 \div 4} = \frac{10}{50}$ $\frac{10 \div 5}{50 \div 5} = \frac{2}{10}$ $\frac{2 \div 2}{10 \div 2} = \frac{1}{5}$

You may have to divide several times until you can't divide any more numbers into both halves of the fraction.

Instructions: Reduce these fractions. Write out all of your steps.

1. $\frac{6}{12}$ =

2. $\frac{15}{225}$ =

3. $\frac{14}{42}$ =

4. $\frac{9}{27}$ =

5. $\frac{18}{27}$ =

6. $\frac{14}{28}$ =

Name_____

7. $\frac{8}{28}$ =

8. $\frac{22}{46}$ =

9. $\frac{30}{36}$ =

10. $\frac{21}{24}$ =

11. $\frac{32}{38}$ =

12. $\frac{5}{50}$ =

13. $\frac{9}{63}$ =

14. $\frac{8}{56}$ =

15. $\frac{16}{23}$ =

16. $\frac{18}{30}$ =

17. $\frac{13}{39}$ =

18. $\frac{7}{49}$ =

19. $\frac{18}{22}$ =

20. $\frac{8}{72}$ =

Fractions
Activity Sheet 5A
Reducing Improper Fractions

Name_____

Reducing improper fractions is just division. To reduce an improper fraction, you divide the denominator $\frac{10}{5}$ into the numerator $\frac{10}{5}$.

It is easiest if you convert the problem into the $5/\overline{10}$ form. Then divide as you would for any division problem.

Examples: $\frac{10}{5} = 5/\overline{10} = 5/\overline{\overset{2}{10}} = 2$

$\frac{26}{5} = 5/\overline{26} = 5/\overline{\begin{matrix}5 & \frac{1}{5} \\ 26 & \\ \frac{25}{1} & \end{matrix}}$

$\frac{53}{12} = 12/\overline{53}$ $\qquad 12/\overline{\begin{matrix}4 & \frac{5}{12} \\ 53 & \\ \frac{48}{5} & \end{matrix}}$

Instructions: Convert the fraction ($\frac{10}{5}$) form to the division ($5/\overline{10}$) form, then divide. When you have your answer, choose the letter of the correct answer--A, B, C, or D--from those listed. Indicate that letter on your answer sheet by carefully filling in the square that contains that letter. You may have to reduce the fraction part of the answer, too. (See Activity Sheet 4A.)

---

1. $\frac{40}{5} =$
   A) 4 C) 10
   B) 8 D) 20

2. $\frac{21}{13} =$
   A) $1\frac{4}{5}$ C) $1\frac{8}{13}$
   B) $2\frac{8}{13}$ D) $2\frac{4}{5}$

3. $\frac{30}{6} =$
   A) 15 C) 20
   B) 6 D) 5

4. $\frac{10}{2} =$
   A) 6 C) 7
   B) 5 D) 4

5. $\frac{61}{8} =$
   A) $7\frac{5}{8}$ C) $7\frac{3}{4}$
   B) $8\frac{5}{8}$ D) $8\frac{3}{4}$

6. $\frac{42}{6} =$
   A) 4 C) 6
   B) 5 D) 7

7. $\frac{26}{4} =$
   A) $6\frac{1}{4}$ C) $6\frac{1}{2}$
   B) $6\frac{3}{4}$ D) $7\frac{1}{2}$

8. $\frac{27}{3} =$
   A) 6 C) 8
   B) 7 D) 9

Fractions
Activity Sheet 5A, Continued
Reducing Improper Fractions

Name _____

9. $\frac{36}{7}$ =

A) $7\frac{1}{7}$ C) $5\frac{1}{7}$

B) $6\frac{1}{7}$ D) $4\frac{1}{7}$

10. $\frac{60}{5}$ =

A) 11 C) 13

B) 12 D) 14

11. $\frac{41}{6}$ =

A) $6\frac{5}{6}$ C) $6\frac{2}{3}$

B) $6\frac{5}{6}$ D) $7\frac{1}{6}$

12. $\frac{81}{8}$ =

A) $9\frac{7}{8}$ C) $10\frac{1}{4}$

B) $10\frac{1}{8}$ D) $10\frac{1}{2}$

13. $\frac{61}{4}$ =

A) $14\frac{1}{4}$ C) $15\frac{1}{4}$

B) $14\frac{1}{2}$ D) $15\frac{1}{2}$

14. $\frac{72}{8}$ =

A) 7 C) 9

B) 8 D) 10

15. $\frac{47}{5}$ =

A) $8\frac{4}{5}$ C) $9\frac{2}{5}$

B) $9\frac{1}{5}$ D) $9\frac{3}{5}$

16. $\frac{84}{3}$ =

A) 26 C) 27

B) 28 D) 29

17. $\frac{52}{7}$ =

A) $7\frac{2}{7}$ C) $7\frac{4}{7}$

B) $7\frac{3}{7}$ D) $7\frac{5}{7}$

18. $\frac{94}{6}$ =

A) $15\frac{1}{2}$ C) $15\frac{3}{4}$

B) $15\frac{2}{3}$ D) $16\frac{2}{3}$

19. $\frac{134}{12}$ =

A) $11\frac{4}{12}$ C) $11\frac{3}{12}$

B) $12\frac{1}{12}$ D) $11\frac{1}{6}$

20. $\frac{58}{7}$ =

A) $7\frac{11}{7}$ C) $8\frac{11}{7}$

B) $8\frac{2}{7}$ D) $7\frac{2}{7}$

Fractions
Activity Sheet 5A, Continued
Reducing Improper Fractions

Name_____

1. [A] [B] [C] [D]

2. [A] [B] [C] [D]

3. [A] [B] [C] [D]

4. [A] [B] [C] [D]

5. [A] [B] [C] [D]

6. [A] [B] [C] [D]

7. [A] [B] [C] [D]

8. [A] [B] [C] [D]

9. [A] [B] [C] [D]

10. [A] [B] [C] [D]

11. [A] [B] [C] [D]

12. [A] [B] [C] [D]

13. [A] [B] [C] [D]

14. [A] [B] [C] [D]

15. [A] [B] [C] [D]

16. [A] [B] [C] [D]

17. [A] [B] [C] [D]

18. [A] [B] [C] [D]

19. [A] [B] [C] [D]

20. [A] [B] [C] [D]

Fractions
Activity Sheet 6A
Finding Common Denominators

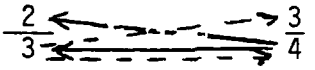
Name_____

In a fraction there are two halves, the numerator → $\frac{5}{7}$, and the denominator → $\frac{5}{7}$. Whenever it is necessary to add or subtract with fractions that have different denominators, you will need to make the denominators the same before you can solve the problem.

One way that always works is to multiply the top and bottom of each fraction times the denominator of the other fraction.

Look at this problem: $\frac{2}{3} + \frac{3}{4} = ?$

First, multiply the denominator of the second fraction times both halves of the first fraction. Then, multiply the denominator of the first fraction times both halves of the second fraction.



$$\frac{2 \times 4 = 8}{3 \times 4 = 12} + \frac{3 \times 3 = 9}{3 \times 4 = 12}$$

Your new problem looks like this.

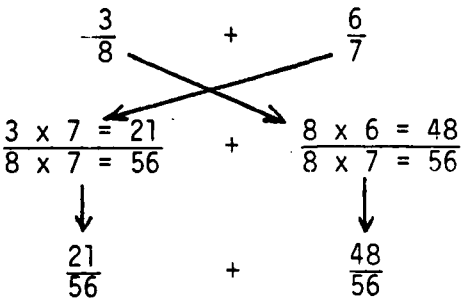
$$\frac{8}{12} + \frac{9}{12}$$

Now it is easy to add the fractions up, because they have a common denominator. Both fractions have a denominator of 12.

$$\frac{8}{12} + \frac{9}{12} = \frac{8 + 9}{12} = \frac{17}{12}$$

Instructions: Find the common denominators for each of these problems. Write the new problem with the common denominators. You don't need to solve the problems.

Example:



Remember to show your work!

Fractions
Activity Sheet 6A, Continued
Finding Common Denominators

Name _____

1. $\frac{2}{3} + \frac{1}{4}$

2. $\frac{1}{6} + \frac{1}{7}$

3. $\frac{1}{5} + \frac{3}{7}$

4. $\frac{1}{2} + \frac{1}{3}$

5. $\frac{1}{10} + \frac{1}{2}$

6. $\frac{1}{8} + \frac{1}{6}$

7. $\frac{4}{7} - \frac{3}{11}$

8. $\frac{8}{11} - \frac{2}{3}$

9. $\frac{5}{6} + \frac{6}{7}$

10. $\frac{3}{4} - \frac{3}{5}$

11. $\frac{3}{8} - \frac{2}{9}$

12. $\frac{5}{7} - \frac{3}{5}$

13. $\frac{7}{8} + \frac{4}{5}$

14. $\frac{2}{9} + \frac{7}{11}$

15. $\frac{4}{5} + \frac{5}{4}$

Fractions
Activity Sheet 6A, Continued
Finding Common Denominators

16. $\frac{4}{7} + \frac{6}{13}$

17. $\frac{1}{3} + \frac{7}{8}$

18. $\frac{4}{9} + \frac{5}{11}$

19. $\frac{7}{20} + \frac{2}{5}$

20. $\frac{7}{9} + \frac{3}{8}$

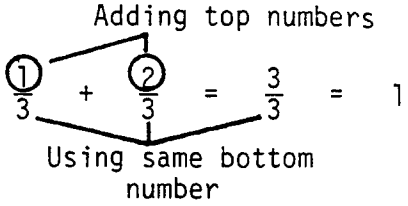
Fractions
Activity Sheet 7A
Adding Fractions With Common Denominators

Name _____

In this lesson you will learn to add fractions that have the same bottom number (denominator).

Adding fractions with common denominators is very easy. All you have to do is add the top numbers together to get the new numerator (top number). The denominator of the answer is the same as the denominator of the fractions in the problem.

Examples:



Remember to reduce the answer fraction like you did in Activity Sheets 4A and 5A.

$\frac{1}{6} + \frac{4}{6} = \frac{5}{6}$

$\frac{3}{8} + \frac{7}{8} = \frac{10}{8} = 1\frac{2}{8} = 1\frac{1}{4}$

$\frac{16}{42} + \frac{23}{42} = \frac{39}{42} = \frac{13}{14}$

Instructions: Add up these fractions and reduce the answer to its simplest form. If you have trouble with reducing the answer, look at Activity Sheets 4A and 5A.

1. $\frac{12}{13} + \frac{9}{13} =$

3. $\frac{2}{9} + \frac{7}{9} =$

5. $\frac{9}{23} + \frac{16}{23} =$

2. $\frac{3}{8} + \frac{5}{8} =$

4. $\frac{4}{7} + \frac{3}{7} =$

6. $\frac{2}{5} + \frac{4}{5} =$

Name_____

7. $\frac{5}{10} + \frac{4}{10} =$

8. $\frac{9}{11} + \frac{5}{11} =$

9. $\frac{14}{15} + \frac{13}{15} =$

10. $\frac{12}{17} + \frac{9}{17} =$

11. $\frac{21}{75} + \frac{35}{75} =$

12. $\frac{25}{83} + \frac{78}{83} =$

13. $\frac{16}{19} + \frac{12}{19} =$

14. $\frac{27}{47} + \frac{41}{47} =$

15. $\frac{42}{51} + \frac{25}{51} =$

16. $\frac{7}{26} + \frac{5}{26} =$

17. $\frac{17}{25} + \frac{11}{25} =$

18. $\frac{9}{42} + \frac{5}{42} =$

19. $\frac{16}{53} + \frac{9}{53} =$

20. $\frac{65}{100} + \frac{35}{100} =$

Fractions
Activity Sheet 8A
Adding Fractions with Different Denominators

Name_____

This activity will teach you to add fractions together that have different bottom numbers (denominators). The first and most important step is to find the common denominator for each problem. $\frac{3}{4} + \frac{1}{2} =$

As you learned in Fraction Activity Sheet 6A, you multiply the denominator of each fraction times the denominator and numerator of the other fraction.

$$\frac{3 \times 2}{4 \times 2} + \frac{1 \times 4}{2 \times 4} =$$

$$\frac{6}{8} + \frac{4}{8} =$$

Next you add the numerators together (as in Fraction Activity Sheet 7A). This gives you the numerator of the answer. The denominator of the answer is the common denominator.

$$\frac{6}{8} + \frac{4}{8} = \frac{10}{8}$$

$\frac{10}{8}$ can be reduced by dividing 8 into 10.

$$8 \overline{)\,10} \quad 1\ \tfrac{2}{8}$$

$\frac{8}{2}$

Then $1\ \frac{2}{8}$ can be reduced to $1\ \frac{1}{4}$.

Instructions: Add the fractions in each problem together and reduce the answers. Remember to find the common denominators first.

Examples:

1. $\frac{1}{2} + \frac{1}{3} =$

$$\frac{1 \times 3}{2 \times 3} + \frac{1 \times 2}{3 \times 2} = \frac{3}{6} + \frac{2}{6} = \frac{3}{6} + \frac{2}{6} = \frac{5}{6}$$

2. $\frac{1}{4} + \frac{1}{6} =$

$$\frac{1 \times 6}{4 \times 6} + \frac{1 \times 4}{6 \times 4} =$$

$$\frac{6}{24} + \frac{4}{24} = \frac{10}{24} \longrightarrow \frac{10}{24} \div \frac{2}{2} = \frac{5}{12}$$

Fractions
Activity Sheet 8A, Continued
Adding Fractions with
Different Denominators

Name_____

1. $\frac{1}{2} + \frac{1}{1} =$

2. $\frac{1}{2} + \frac{1}{4} =$

3. $\frac{1}{3} + \frac{1}{4} =$

4. $\frac{1}{3} + \frac{1}{5} =$

5. $\frac{1}{3} + \frac{1}{6} =$

6. $\frac{1}{3} + \frac{1}{7} =$

7. $\frac{1}{4} + \frac{1}{7} =$

8. $\frac{1}{5} + \frac{1}{4} =$

9. $\frac{1}{6} + \frac{1}{2} =$

10. $\frac{1}{4} + \frac{1}{9} =$

Fractions
Activity Sheet 8A, Continued
Adding Fractions with
Different Denominators

Name_____

11. $\frac{3}{5} + \frac{1}{3} =$

12. $\frac{3}{4} + \frac{1}{8} =$

13. $\frac{3}{8} + \frac{2}{3} =$

14. $\frac{5}{6} + \frac{6}{5} =$

15. $\frac{4}{9} + \frac{2}{7} =$

16. $\frac{3}{5} + \frac{8}{9} =$

17. $\frac{1}{3} + \frac{2}{5} =$

18. $\frac{3}{7} + \frac{1}{8} =$

19. $\frac{2}{9} + \frac{3}{7} =$

20. $\frac{7}{8} + \frac{8}{9} =$

Fractions
Activity Sheet 9A
Adding Mixed Numbers

Name _____

During this activity you will learn how to add mixed numbers together. A mixed number is a whole number followed by a fraction -- $5\frac{1}{4}$.

The easiest way to add mixed numbers is to split up each mixed number into the whole number and the fraction.

$$\begin{array}{lll} 5\frac{1}{4} & 5 & \frac{1}{4} \\ +\ 4\frac{2}{3} & +\ 4 & \frac{2}{3} \\ \hline \end{array}$$

Then add the two sets separately. Add the fractions, then the whole numbers.

$$\begin{array}{l} 5 \\ +\ 4 \\ \hline (9) \end{array} \qquad \frac{1 \times 3}{4 \times 3} + \frac{2 \times 4}{3 \times 4} =$$

$$\frac{3}{12} + \frac{8}{12} = \left(\frac{11}{12}\right)$$

$$9 + \frac{11}{12}$$

$$= 9\frac{11}{12}$$

Then re-combine the two sets of answers back into a mixed number for the overall answer, as shown above.

Sometimes, when you add up the fraction half and reduce it, you find out your answer is greater than 1. Look at this problem:

$$\begin{array}{lll} 6\frac{3}{4} & 6 & + \frac{3}{4} \\ +\ 1\frac{1}{3} & +\ 1 & + \frac{1}{3} \\ \hline & \downarrow & \\ & (7) & \end{array}$$

$$\frac{3}{4} + \frac{1}{3} = \frac{3 \times 3}{4 \times 3} + \frac{4 \times 1}{4 \times 3} = \frac{9}{12} + \frac{4}{12} = \frac{13}{12} = \left(1\ \frac{1}{12}\right)$$

$$7 + 1\ \frac{1}{12}$$

You can see that your fraction answer is greater than 1. But it is easy to add to the other part of your answer.

$$7 + 1\ \frac{1}{12} = 8\ \frac{1}{12} \qquad \text{because } 7 + 1 = 8.$$

Fractions
Activity Sheet 9A, Continued
Adding Mixed Numbers

Name_____

Instructions: Add up these problems. Add the fractions first. Then, add the whole numbers. You may have to find common denominators. Then you reduce the fractions answer to its simplest terms. Last, add the whole numbers answer and the fractions answer together.

Example: $2\frac{3}{8} + 4\frac{6}{7} =$

$2 + 4 = 6$ $\qquad \frac{3}{8} + \frac{6}{7} = \frac{3 \times 7}{8 \times 7} + \frac{8 \times 6}{8 \times 7} = \frac{21}{56} + \frac{48}{56} = \frac{69}{56} = 1\frac{13}{56}$

$6 + 1\frac{13}{56} = 7\frac{13}{56}$

---

1. $1\frac{1}{2} + 1\frac{1}{3} =$

2. $1\frac{1}{4} + 1\frac{1}{3} =$

3. $1\frac{3}{8} + 1\frac{1}{6} =$

4. $3\frac{5}{7} + 4\frac{1}{5} =$

5. $1\frac{2}{3} + 1\frac{3}{4} =$

6. $1\frac{3}{5} + 1\frac{7}{8} =$

7. $4\frac{2}{9} + 7\frac{5}{8} =$

8. $3\frac{1}{11} + 5\frac{1}{7} =$

Fractions
Activity Sheet 9A, Continued
Adding Mixed Numbers

Name _____

9. $17\frac{3}{7} + 2\frac{9}{10} =$

10. $6\frac{7}{10} + 9\frac{13}{14} =$

11. $4\frac{2}{5} + 5\frac{5}{6} =$

12. $8\frac{4}{9} + 8\frac{3}{4} =$

13. $7\frac{2}{3} + 5\frac{1}{5} =$

14. $11\frac{4}{5} + 6\frac{7}{11} =$

15. $10\frac{2}{7} + 12\frac{1}{2} =$

16. $14\frac{2}{5} + 18\frac{7}{9} =$

17. $22\frac{4}{11} + 7\frac{7}{10} =$

18. $15\frac{9}{10} + 19\frac{1}{4} =$

19. $27\frac{3}{5} + 55\frac{4}{7} =$

20. $138\frac{1}{3} + 116\frac{1}{8} =$

Fractions
Activity Sheet 10A
Subtracting Fractions with Common Denominators

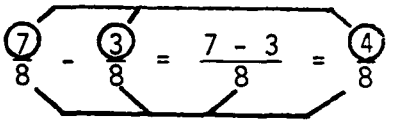
Name_____

In this lesson you will learn to subtract fractions that have the same bottom number (denominator).

Subtracting fractions with common denominators (bottom numbers) is very easy. All you have to do is subtract the top numbers (numerators) of each fraction from each other to get the answer's numerator. To get the answer's denominator you just use the same bottom number as the fractions in the problem.

Example: $\frac{2}{3} - \frac{1}{3} = \frac{2-1}{3} = \frac{1}{3}$

Subtracting top numbers 7 - 3 = 4



Using the same bottom numbers

If your answer can be reduced, remember to reduce it.

$$\frac{5}{6} - \frac{1}{6} = \frac{5-1}{6} = \frac{4}{6} = \frac{2}{3}$$

Instructions: Do subtraction on the problems. If necessary, reduce the answer to its simplest form. If you have trouble reducing the answer, look at Fractions Activity Sheet 4A.

1. $\frac{4}{7} - \frac{3}{7} =$

3. $\frac{5}{8} - \frac{3}{8} =$

5. $\frac{5}{10} - \frac{4}{10} =$

2. $\frac{7}{9} - \frac{2}{9} =$

4. $\frac{12}{13} - \frac{9}{13} =$

6. $\frac{9}{11} - \frac{5}{11} =$

Name_____

7. $\frac{4}{5} - \frac{2}{5} =$

8. $\frac{16}{23} - \frac{9}{23} =$

9. $\frac{12}{17} - \frac{9}{17} =$

10. $\frac{14}{15} - \frac{12}{15} =$

11. $\frac{35}{75} - \frac{21}{75} =$

12. $\frac{78}{213} - \frac{25}{213} =$

13. $\frac{42}{119} - \frac{25}{119} =$

14. $\frac{112}{193} - \frac{16}{193} =$

15. $\frac{83}{296} - \frac{44}{296} =$

16. $\frac{521}{842} - \frac{291}{842} =$

17. $\frac{117}{251} - \frac{110}{251} =$

18. $\frac{166}{753} - \frac{97}{753} =$

19. $\frac{192}{300} - \frac{74}{300} =$

20. $\frac{65}{100} - \frac{35}{100} =$

Fractions
Activity Sheet 11A
Subtracting Fractions with Different Denominators

Name _____

This activity will teach you to subtract fractions that have different bottom numbers (denominators). The first and most important step is to find common denominators for each problem. If you don't know how to find common denominators, see Activity Sheet 6A.

When your fractions have common denominators, then (as described in Fraction Activity Sheet 10A), you subtract the numerators to get the answer's numerator. For the answer's denominator, use the same denominator as the rest of the fractions in the problem. For example:

$$\frac{3}{6} - \frac{2}{6} = \frac{3-2}{6} = \frac{1}{6}$$

Now, in some cases you will need to reduce the answer. If you don't know how to reduce fractions, see Activity Sheet 4A.

Instructions: Subtract the fractions in each problem from each other and reduce the answers where necessary. Remember to find the common denominators first.

Examples:

1. $\frac{1}{4} - \frac{1}{8} = \frac{1 \times 8}{4 \times 8} - \frac{1 \times 4}{8 \times 4} = \frac{8}{32} - \frac{4}{32} = \frac{4}{32} = \frac{1}{8}$

2. $\frac{1}{5} - \frac{1}{6} = \frac{1 \times 6}{5 \times 6} - \frac{1 \times 5}{6 \times 5} = \frac{6}{30} - \frac{5}{30} = \frac{1}{30}$

---

1. $\frac{1}{1} - \frac{1}{2} =$

2. $\frac{1}{2} - \frac{1}{4} =$

3. $\frac{1}{3} - \frac{1}{4} =$

4. $\frac{1}{3} - \frac{1}{5} =$

Fractions
Activity Sheet 11A, Continued
Subtracting Fractions with Different Denominators

Name_____

5. $\frac{1}{3} - \frac{1}{6} =$

6. $\frac{1}{3} - \frac{1}{7} =$

7. $\frac{1}{4} - \frac{1}{7} =$

8. $\frac{1}{4} - \frac{1}{5} =$

9. $\frac{1}{2} - \frac{1}{6} =$

10. $\frac{1}{4} - \frac{1}{9} =$

11. $\frac{3}{5} - \frac{1}{3} =$

12. $\frac{3}{4} - \frac{1}{8} =$

13. $\frac{2}{3} - \frac{3}{8} =$

14. $\frac{6}{5} - \frac{5}{6} =$

Fractions
Activity Sheet 11A, Continued
Subtracting Fractions with
Different Denominators

Name_____

15. $\frac{4}{9} - \frac{2}{7} =$

16. $\frac{8}{9} - \frac{3}{5} =$

17. $\frac{2}{5} - \frac{1}{3} =$

18. $\frac{3}{7} - \frac{1}{6} =$

19. $\frac{7}{8} - \frac{6}{7} =$

20. $\frac{9}{10} - \frac{8}{9} =$

Fractions
Activity Sheet 12A
Subtracting Mixed Numbers

Name_____

During this activity you will learn how to subtract mixed numbers.

A mixed number is a whole number followed by a fraction, such as $7\frac{3}{8}$.

Here is a step by step example of how to subtract mixed numbers.

Example:
$$6\frac{2}{3}$$
$$-\ 1\frac{1}{2}$$

1. Find common denominators for the fractions.

$$6\frac{2 \times 2}{3 \times 2} \qquad 6\frac{4}{6}$$
$$-\ 1\frac{1 \times 3}{2 \times 3} \qquad -\ 1\frac{3}{6}$$

2. Now, just subtract straight down. Subtract the 1 from the 6, and subtract the $\frac{3}{6}$ from the $\frac{4}{6}$.

$$6\ \frac{4}{6}$$
$$-\ 1\ \frac{3}{6}$$
$$5\ \frac{1}{6}$$

Now, here is an example of subtracting where the top fraction is <u>smaller</u> than the bottom fraction, so you have to <u>borrow</u>.

Example:
$$8\frac{1}{4}$$
$$-\ 4\frac{2}{3}$$

1. Find common denominators for the fractions.

$$8\frac{1 \times 3}{4 \times 3} \qquad 8\frac{3}{12}$$
$$-\ 4\frac{2 \times 4}{3 \times 4} \qquad -\ 4\frac{8}{12}$$

2. Now let's remove $8\frac{3}{12}$ from the problem temporarily.

Borrow 1 from the 8 so that $\frac{3}{12}$ can be raised enough that $\frac{8}{12}$ can be subtracted from it. Change 1 to $\frac{12}{12}$ so it can be added to $\frac{3}{12}$.

$$8 + \frac{3}{12}$$
$$7 + 1 + \frac{3}{12} =$$
$$7 + \frac{12}{12} + \frac{3}{12} =$$
$$7 + \frac{15}{12}$$

Name_____

3. Now we will put the converted $8\frac{3}{12}$, which is now $7\frac{15}{12}$, back into the problem where it came from and subtract the same way we did in Activity Sheet 10A.

$$\begin{array}{r} 7\ \frac{15}{12} \\ -\ 4\ \frac{8}{12} \\ \hline 3\ \frac{7}{12} \end{array}$$

Instructions: Subtract these problems. Borrow when necessary. Reduce the answer to the simplest form. Use scratch paper to do your work.

Example:

$$\begin{array}{r} 14\ \frac{3}{4} \\ -\ 12\ \frac{15}{16} \\ \hline \end{array} \qquad \begin{array}{r} 14\ \frac{3}{4} \times \frac{16}{16} \\ -\ 12\ \frac{15}{16} \times \frac{4}{4} \\ \hline \end{array} \qquad \begin{array}{r} 14\ \frac{48}{64} \\ -\ 12\ \frac{60}{64} \\ \hline \end{array}$$

$14 + \frac{48}{64}$

Borrow 1 from 14.

$13 + 1 + \frac{48}{64}$

Convert 1 to 64ths.

$13 + \frac{64}{64} + \frac{48}{64}$

Add $\frac{64}{64} + \frac{48}{64}$

$13\ \frac{112}{64}$

$$\begin{array}{r} 13\ \frac{112}{64} \\ -\ 12\ \frac{60}{64} \\ \hline 1\ \frac{52}{64} \\ 1\ \frac{52 \div 2}{64 \div 2} \\ 1\ \frac{26 \div 2}{32 \div 2} \end{array}$$

Now reduce fraction

$1\ \frac{13}{16}$

The Answer

Fractions
Activity Sheet 12A, Continued
Subtracting Mixed Numbers

Name_____

1. $1\frac{2}{3} - 1\frac{1}{2}$ =

2. $1\frac{3}{4} - 1\frac{1}{3}$ =

3. $1\frac{5}{6} - 1\frac{3}{8}$ =

4. $3\frac{1}{5} - 2\frac{5}{7}$ =

5. $3\frac{2}{3} - 1\frac{3}{4}$ =

6. $1\frac{7}{8} - 1\frac{3}{5}$ =

7. $7\frac{5}{8} - 4\frac{2}{9}$ =

8. $5\frac{1}{10} - 3\frac{1}{11}$ =

9. $17\frac{3}{7} - 2\frac{9}{10}$ =

10. $9\frac{13}{14} - 6\frac{7}{8}$ =

11. $5\frac{5}{6} - 4\frac{2}{5}$ =

12. $9\frac{4}{9} - 8\frac{3}{4}$ =

13. $10\frac{2}{7} - 9\frac{1}{2}$ =

Fractions
Activity Sheet 12A, Continued
Subtracting Mixed Numbers

Name_____

14. $7\frac{1}{5} - 5\frac{2}{3}$

15. $18\frac{7}{9} - 14\frac{2}{5}$

16. $22\frac{7}{12} - 7\frac{4}{11}$

17. $19\frac{1}{4} - 15\frac{9}{10}$

18. $11\frac{4}{5} - 6\frac{7}{11}$

19. $55\frac{4}{7} - 27\frac{3}{5} =$

20. $138\frac{1}{8} - 116\frac{1}{3} =$

Fractions
Activity Sheet 13A
Cancelling

Name _____

In this lesson you will learn cancelling. Cancelling is a way to make a complex or difficult problem simpler. Cancelling only works with multiplication of fractions. If you try cancelling on problems of addition, subtraction, or division of fractions, you will get the wrong answer.

Cancelling makes a problem simpler by reducing the numbers in the problem. In Activity Sheets 4A and 5A, you learned how to reduce fractions. You found a number that could be divided evenly into both the numerator and the denominator. Cancelling is like that, except you find a number that will divide evenly into the numerator of one fraction and the denominator of the other fraction.

For example, look at this problem:

$$\frac{6}{7} \times \frac{1}{4} = ?$$

To make the problem simpler, you find a number that will divide evenly into one numerator and the other denominator. Is there a number that will divide evenly into both the 6 and the 4? Sure, there is. You can divide the number 2 evenly into both 6 and 4. So, do that.

$$\frac{6}{7} \times \frac{1}{4}$$

$$\frac{6 \div 2}{7} \times \frac{1}{4 \div 2} = \frac{3}{7} \times \frac{1}{2}$$

Your new problem is

$$\frac{3}{7} \times \frac{1}{2} = ?$$

It is a much simpler problem.

Now, can you divide any number into both the 7 and the 1?

$$\frac{3}{7} \times \frac{1}{2}$$

No, you can't find a number to do that. So now your problem is at its simplest form.

Let's try another problem in cancelling.

$$\frac{9}{10} \times \frac{5}{6} = ?$$

What number will go evenly into both 9 and 6?

$$\frac{9}{10} \times \frac{5}{6} =$$

The number 3 will divide evenly into 9 and into 6.

Fractions
Activity Sheet 13A
Cancelling

Name _____

$\frac{9 \div 3}{10} \times \frac{5}{6 \div 3} = \frac{3}{10} \times \frac{5}{2}$ because $9 \div 3 = 3$ and $6 \div 3 = 2$.

Now, what number will divide evenly into both 10 and 5?

$\frac{3}{10} \times \frac{5}{2}$ The number 5 will divide evenly into 10 and into 5.

$\frac{3}{10 \div 5} \times \frac{5 \div 5}{2} = \frac{3}{2} \times \frac{1}{2}$ because $10 \div 5 = 2$ and $5 \div 5 = 1$.

Your new problem, $\frac{3}{2} \times \frac{1}{2}$, is much simpler.

Here is one more example of cancelling.

$$\frac{33}{72} \times \frac{6}{11} = ?$$

The numbers in this problem are <u>big</u> and <u>hard to use</u>. But you can make the problem simpler by cancelling.

$\frac{33}{72} \times \frac{6}{11}$ The number 11 will divide evenly into both 33 and 11.

$\frac{33 \div 11 = 3}{72} \times \frac{6}{11 \div 11 = 1} = \frac{3}{72} \times \frac{6}{1}$

$\frac{3}{72} \times \frac{6}{1}$ Now, the number 6 will divide evenly into both 72 and 6.

$\frac{3}{72 \div 6 = 12} \times \frac{6 \div 6 = 1}{1} = \frac{3}{12} \times \frac{1}{1}$ This is a much simpler problem.

Instructions: Do the problems below. Cancel to make the problem as simple as possible. YOU DO NOT HAVE TO SOLVE THE PROBLEM! JUST MAKE IT SIMPLE!

Example: $\frac{18}{25} \times \frac{10}{21} = \frac{18}{25} \times \frac{10}{21}$

$\frac{18 \div 3}{25 \div 5} \times \frac{10 \div 5}{21 \div 3}$ because 3 goes into 18 and into 21, and 5 goes into 25 and into 10.

$= \frac{6}{5} \times \frac{2}{7}$

<u>Important</u>: If you use a scratch paper to help do the problems, keep the scratch paper so you can show it to the peer tutor and the teacher.

Fractions (Continued)
Activity Sheet 13A
Cancelling

Name _____

1. $\frac{3}{4} \times \frac{2}{9} =$

2. $\frac{4}{5} \times \frac{5}{8} =$

3. $\frac{2}{3} \times \frac{9}{10} =$

4. $\frac{3}{8} \times \frac{1}{36} =$

5. $\frac{1}{2} \times \frac{4}{7} =$

6. $\frac{6}{7} \times \frac{6}{14} =$

7. $\frac{9}{11} \times \frac{1}{18} =$

8. $\frac{13}{14} \times \frac{21}{169} =$

9. $\frac{25}{26} \times \frac{52}{625} =$

10. $\frac{6}{5} \times \frac{25}{36} =$

11. $\frac{4}{11} \times \frac{121}{16} =$

12. $\frac{15}{32} \times \frac{128}{75} =$

13. $\frac{45}{51} \times \frac{17}{9} =$

14. $\frac{23}{52} \times \frac{13}{161} =$

15. $\frac{46}{36} \times \frac{6}{10} =$

16. $\frac{12}{15} \times \frac{9}{16} =$

17. $\frac{13}{4} \times \frac{2}{39} =$

18. $\frac{14}{30} \times \frac{10}{28} =$

19. $\frac{25}{36} \times \frac{9}{50} =$

20. $\frac{21}{84} \times \frac{16}{27} =$

Fractions
Activity Sheet 14A
Multiplying Fractions Times Fractions Name _____

In this lesson you will learn how to multiply fractions times fractions.

$$\frac{1}{2} \times \frac{2}{3} = ?$$

You do this in two steps. First, multiply the numerators times each other; then, multiply the denominators times each other.

$$\frac{1}{2} \times \frac{2}{3} = \frac{1 \times 2}{2 \times 3} = \frac{2}{6} \quad \text{Then reduce} \quad \frac{2 \div 2}{6 \div 2} = \frac{1}{3}$$

Multiplying the numerators and multiplying the denominators are two separate problems. They give you the new numerator and the new denominator.

Instructions: Multiply these problems and reduce the answers if necessary. Cancel wherever you can.

Examples:

(a) $\frac{3}{4} \times \frac{7}{8} = \frac{3 \times 7}{4 \times 8} = \frac{21}{32}$

(b) $\frac{3}{9} \times \frac{6}{7} = \frac{3 \times \overset{2}{\cancel{6}}}{\underset{3}{\cancel{9}} \times 7} = \frac{3 \times 2}{3 \times 7} = \frac{6}{21} = \frac{2}{7}$ (cancelled and reduced)

(c) $\frac{2}{5} \times \frac{3}{5} = \frac{2 \times 3}{5 \times 5} = \frac{6}{25}$

---

1. $\frac{1}{4} \times \frac{1}{5} =$

2. $\frac{1}{3} \times \frac{1}{3} =$

3. $\frac{1}{2} \times \frac{1}{2} =$

4. $\frac{1}{5} \times \frac{2}{3} =$

5. $\frac{3}{5} \times \frac{2}{9} =$

6. $\frac{1}{4} \times \frac{2}{10} =$

7. $\frac{2}{3} \times \frac{3}{8} =$

8. $\frac{5}{6} \times \frac{5}{7} =$

Fractions (Continued)
Activity Sheet 14A
Multiplying Fractions Times Fractions

Name _____

9. $\frac{2}{5} \times \frac{5}{8} =$

10. $\frac{3}{4} \times \frac{3}{10} =$

11. $\frac{2}{7} \times \frac{2}{9} =$

12. $\frac{5}{12} \times \frac{4}{15} =$

13. $\frac{3}{4} \times \frac{4}{5} =$

14. $\frac{5}{11} \times \frac{3}{10} =$

15. $\frac{1}{8} \times \frac{1}{4} =$

16. $\frac{3}{6} \times \frac{4}{6} =$

17. $\frac{2}{3} \times \frac{3}{4} =$

18. $\frac{2}{8} \times \frac{5}{4} =$

19. $\frac{6}{9} \times \frac{7}{9} =$

20. $\frac{5}{14} \times \frac{6}{7} =$

Fractions
Activity Sheet 15A
Multiplying Whole Numbers
Times Fractions

Name _____

In this lesson you will learn to multiply whole numbers times fractions.

For instance, $2 \times \frac{1}{3} = ?$

This is very simple. Remember that a whole number is the same as a fraction with a denominator of 1. So, just turn the whole number into a fraction, and multiply like you did in Activity Sheet 14A.

$$2 \times \frac{1}{3} = \frac{2}{1} \times \frac{1}{3} = \frac{2 \times 1}{1 \times 3} = \frac{2}{3}$$

Here are some other examples:

$$4 \times \frac{1}{5} = \frac{4}{1} \times \frac{1}{5} = \frac{4 \times 1}{1 \times 5} = \frac{4}{5}$$

$$5 \times \frac{2}{7} = \frac{5}{1} \times \frac{2}{7} = \frac{5 \times 2}{1 \times 7} = \frac{10}{7} = 1\frac{3}{7}$$

Notice that you can sometimes reduce your answer. To find out how to reduce fractions, see Activity Sheets 4A and 5A.

Instructions: Multiply the whole number times the fraction in each problem below. Reduce the answers if you need to. Cancel when you can.

Example: $7 \times \frac{3}{8} = \frac{7}{1} \times \frac{3}{8} = \frac{7 \times 3}{1 \times 8} = \frac{21}{8} = 2\frac{5}{8}$

---

1. $5 \times \frac{1}{5} =$

2. $7 \times \frac{1}{7} =$

3. $4 \times \frac{1}{4} =$

4. $6 \times \frac{6}{36} =$

5. $3 \times \frac{5}{15} =$

6. $2 \times \frac{12}{24} =$

Fractions (Continued)
Activity Sheet 15A
Multiplying Whole Numbers
Times Fractions

Name _____

7. $9 \times \frac{14}{42} =$

8. $8 \times \frac{6}{24} =$

9. $10 \times \frac{30}{100} =$

10. $7 \times \frac{3}{10} =$

11. $5 \times \frac{6}{11} =$

12. $4 \times \frac{7}{9} =$

13. $6 \times \frac{4}{13} =$

14. $11 \times \frac{8}{13} =$

15. $17 \times \frac{6}{51} =$

16. $21 \times \frac{17}{18} =$

17. $16 \times \frac{3}{14} =$

18. $5 \times \frac{3}{4} =$

19. $72 \times \frac{3}{18} =$

20. $112 \times \frac{16}{21} =$

Fractions
Activity Sheet 16A
Multiplying Mixed Numbers

Name _____

This activity will teach you to multiply mixed numbers times each other.

$$2\frac{1}{3} \times 3\frac{1}{2} =$$

The trick here is to change the mixed numbers into fractions. You learned how to do that in Activity Sheet 3A.

Look at this problem:

$$2\frac{1}{3} \times 4\frac{1}{2} = ?$$

First, change the mixed numbers into fractions.

$$2\frac{1}{3} \times 4\frac{1}{2}$$

$$\downarrow \qquad \downarrow$$

$$\frac{7}{3} \times \frac{9}{2}$$

because 2 x 3 = 6 plus 1 = 7, and
4 x 2 = 8 plus 1 = 9.

Next, multiply the two fractions together, like you learned in Activity Sheet 14A.

$$\frac{7}{3} \times \frac{9}{2} = \frac{7 \times \cancel{9}^{3}}{{}_{1}\cancel{3} \times 2} = \frac{7 \times 3}{1 \times 2} = \frac{21}{2}$$

(Cancelling made the problem easier.)

Last, you need to reduce the fraction. Turn it into a mixed number, like you learned in Activity Sheets 4A and 5A.

$$\frac{21}{2} = \begin{array}{r} 10\frac{1}{2} \\ 2\overline{)21} \\ \underline{2} \\ 01 \\ \underline{0} \\ 1 \end{array} = 10\frac{1}{2}$$

because $21 \div 2 = 10\frac{1}{2}$.

Instructions: Multiply these mixed numbers. Follow the steps outlined above. Reduce the answers where necessary. Cancel whenever you can.

---

1. $1\frac{1}{3} \times 2\frac{1}{3} =$

2. $1\frac{1}{4} \times 1\frac{1}{5} =$

3. $2\frac{1}{5} \times 1\frac{2}{3} =$

4. $1\frac{1}{6} \times 3\frac{1}{2} =$

Fractions
Activity Sheet 16A, Continued
Multiplying Mixed Numbers

Name _____

5. $2\frac{3}{5} \times 3\frac{2}{9} =$

6. $4\frac{2}{3} \times 1\frac{3}{8} =$

7. $2\frac{5}{6} \times 3\frac{5}{7} =$

8. $1\frac{1}{4} \times 3\frac{2}{10} =$

9. $5\frac{2}{5} \times 2\frac{5}{8} =$

10. $3\frac{3}{4} \times 2\frac{3}{10} =$

11. $2\frac{3}{4} \times 4\frac{4}{5} =$

12. $7\frac{2}{7} \times 3\frac{1}{9} =$

13. $4\frac{7}{12} \times 2\frac{4}{15} =$

14. $6\frac{2}{9} \times 1\frac{1}{3} =$

15. $2\frac{2}{3} \times 2\frac{3}{4} =$

16. $12\frac{1}{2} \times 15\frac{1}{4} =$

17. $11\frac{2}{3} \times 17\frac{3}{4} =$

18. $5\frac{2}{8} \times 4\frac{5}{4} =$

19. $3\frac{5}{14} \times 6\frac{6}{7} =$

20. $2\frac{6}{9} \times 4\frac{7}{9}$

Fractions
Activity Sheet 17A
Dividing Fractions by Fractions

Name _____

In this activity you will learn how to divide one fraction by another.

$$\frac{1}{3} \div \frac{1}{2} =$$

Dividing fractions is the same as multiplying fractions <u>except</u> for one important step. First, you <u>turn the second fraction in the problem upside down</u> before you multiply.

$$\frac{1}{3} \div \frac{1}{2}$$

$$\frac{1}{3} \times \frac{2}{1}$$

(Second fraction turned upside down and problem sign changed to multiply)

You always turn the second fraction upside down before you multiply. That is the only difference between dividing fractions and multiplying fractions. When you have completed that step, you just multiply the numerators times each other, and the denominators times each other, just as you did in Activity Sheet 14A on multiplying fractions.

Here is the whole process at step at a time:

(1) $\frac{1}{3} \div \frac{1}{4} =$ (1) Turn the second fraction <u>upside down</u>.

(2) $\frac{1}{3} \times \frac{4}{1} =$ (2) <u>Change</u> the <u>sign</u> to <u>multiply</u>.

(3) $\frac{1 \times 4}{3 \times 1} = \frac{4}{3}$ (3) <u>Multiply</u> numerators and denominators.

(4) $\frac{4}{3} = 1\frac{1}{3}$ (4) <u>Reduce</u> the answer if necessary.

Instructions: Divide these fraction problems. Reduce the answers where necessary. Remember the steps you just learned.

---

1. $\frac{1}{3} \div \frac{1}{2} =$

2. $\frac{1}{2} \div \frac{1}{4} =$

3. $\frac{1}{3} \div \frac{1}{5} =$

4. $\frac{1}{4} \div \frac{1}{7} =$

Fractions
Activity Sheet 17A, Continued
Dividing Fractions by Fractions

Name _____

5. $\frac{1}{3} \div \frac{1}{6} =$

6. $\frac{1}{5} \div \frac{1}{4} =$

7. $\frac{1}{2} \div \frac{1}{6} =$

8. $\frac{1}{4} \div \frac{1}{9} =$

9. $\frac{1}{5} \div \frac{1}{3} =$

10. $\frac{1}{3} \div \frac{1}{4} =$

11. $\frac{3}{5} \div \frac{1}{3} =$

12. $\frac{3}{4} \div \frac{1}{8} =$

13. $\frac{6}{5} \div \frac{5}{6} =$

14. $\frac{4}{9} \div \frac{2}{7} =$

15. $\frac{8}{9} \div \frac{3}{5} =$

16. $\frac{2}{5} \div \frac{1}{3} =$

17. $\frac{7}{8} \div \frac{6}{7} =$

18. $\frac{2}{3} \div \frac{3}{8} =$

19. $\frac{9}{10} \div \frac{8}{9} =$

20. $\frac{3}{7} \div \frac{1}{6} =$

Fractions
Activity Sheet 18A
Dividing Whole Numbers by Fractions or
Fractions by Whole Numbers

Name_____

This activity will show you how to divide whole numbers by fractions or fractions by whole numbers. Both problems are the same. They both have the same steps.

(1) First, you put the whole number over 1 to make it a fraction.

$2 \div \frac{1}{3}$ or $\frac{1}{3} \div 2 =$

$\frac{2}{1} \div \frac{1}{3}$ or $\frac{1}{3} \div \frac{2}{1} =$

(2) Then, as in Activity Sheet 17A on Dividing Fractions by Fractions, you turn the second fraction upside down and change the sign to multiply.

$\frac{2}{1} \times \frac{3}{1}$ or $\frac{1}{3} \times \frac{1}{2} =$

(3) Then you multiply the numerator times the numerator and the denominator times the denominator to give you the answer(s).

$\frac{2}{1} \times \frac{3}{1} = \frac{6}{1}$ or $\frac{1}{3} \times \frac{1}{2} = \frac{1}{6}$

No reduction needed.

(4) Then you reduce the answer if necessary.

$\frac{6}{1} = 6$ or $\frac{1}{6}$

Instructions: Divide the following problems. Follow the steps shown above.

Example: $6 \div \frac{3}{4} = \frac{6}{1} \div \frac{3}{4} = \frac{6}{1} \times \frac{4}{3} = \frac{^{2}\cancel{6} \times 4}{1 \times \cancel{3}_{1}} = \frac{8}{1} = 8$

Put whole number over 1.

Turn second fraction upside down and change sign to multiply.

Multiply. Cancel if you can.

Reduce answer.

Fractions
Activity Sheet 18A , Continued
Dividing Whole Numbers by Fractions or
Fractions by Whole Numbers

Name_____

1. $\frac{1}{5} \div 5 =$

2. $7 \div \frac{1}{7} =$

3. $4 \div \frac{1}{4} =$

4. $\frac{17}{36} \div 6 =$

5. $3 \div \frac{5}{16} =$

6. $2 \div \frac{12}{25} =$

7. $9 \div \frac{14}{43} =$

8. $\frac{6}{27} \div 8 =$

9. $\frac{100}{30} \div 10 =$

10. $7 \div \frac{3}{10} =$

11. $5 \div \frac{6}{11} =$

12. $\frac{7}{9} \div 4 =$

13. $6 \div \frac{4}{13} =$

14. $\frac{3}{11} \div 11 =$

15. $17 \div \frac{6}{17} =$

16. $\frac{5}{6} \div 21 =$

17. $16 \div \frac{3}{14} =$

18. $\frac{3}{4} \div 5 =$

19. $72 \div \frac{3}{18} =$

20. $\frac{16}{21} \div 10 =$

Fractions
Activity Sheet 19A
Dividing Mixed Numbers by
Mixed Numbers

Name _____

This lesson will show you how to divide mixed numbers by mixed numbers.

$$2\frac{1}{3} \div 3\frac{1}{2} = ?$$

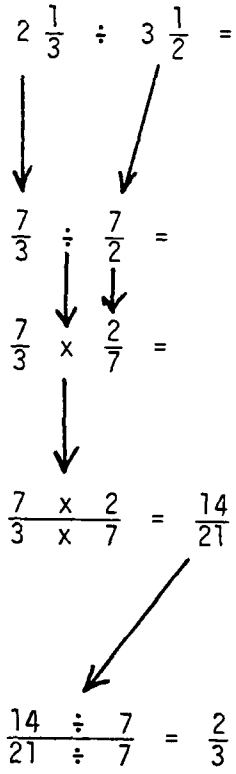
To do this you need to follow four steps.

(1) Convert the mixed numbers into fractions as in Activity Sheet 3A.

(2) Turn the second fraction upside down and change the sign to multiply as you did in Activity Sheet 18A.

(3) Multiply the numerators and the denominators to give you the answer.

(4) Reduce the answer to its simplest form, as in Activity Sheets 4A and 5A.



As you can see, it is simple when you follow the steps. Now, you try a few.

Instructions: Divide the following problems. Use the four steps. Reduce the answers where necessary.

Fractions
Activity Sheet 19A, Continued
Dividing Mixed Numbers by
Mixed Numbers

Name_____

1. $1\frac{1}{3} \div 2\frac{1}{3} =$

2. $1\frac{1}{4} \div 1\frac{1}{5} =$

3. $2\frac{1}{5} \div 1\frac{2}{3} =$

4. $4\frac{1}{2} \div 3\frac{1}{2} =$

5. $2\frac{3}{5} \div 3\frac{2}{10} =$

6. $2\frac{5}{6} \div 1\frac{2}{15} =$

7. $4\frac{2}{3} \div 1\frac{2}{9} =$

8. $5\frac{3}{5} \div 2\frac{5}{8} =$

9. $1\frac{1}{4} \div 3\frac{2}{11} =$

10. $4\frac{3}{4} \div 2\frac{3}{10} =$

11. $4\frac{5}{12} \div 2\frac{4}{12} =$

12. $7\frac{3}{7} \div 1\frac{1}{7} =$

13. $2\frac{3}{4} \div 4\frac{1}{8} =$

14. $10\frac{1}{8} \div 3\frac{3}{10} =$

15. $2\frac{3}{8} \div 3\frac{1}{4} =$

16. $6\frac{4}{11} \div 6\frac{8}{22} =$

17. $3\frac{1}{4} \div 10\frac{1}{2} =$

18. $16\frac{2}{3} \div 4\frac{1}{6} =$

19. $11\frac{2}{3} \div 7\frac{7}{9} =$

20. $2\frac{7}{9} \div 4\frac{5}{9} =$

Fractions
Activity Sheet 20A
Converting Fractions to Decimals

Name _____

To convert fractions to decimals, you divide the denominator into the numerator like you did in Activity Sheet 5A. Then you round off the answer if the decimal number gets too long.

Example: Convert $\frac{3}{8}$ into a decimal.

```
8/ 3
```

(1) First, turn the fraction into a division problem like you did in Activity Sheet 5A.

```
8/ 3.
```

(2) Next, put a decimal point to the right of the number under the division sign (which was the numerator of the decimal). Put another decimal point exactly above it, on top of the division sign.

```
8/ 3.000
```

(3) Put some 0's after the numerator. This makes it easier to divide.

```
   .375
8/ 3.000
  24
  60
  56
  40
  40
   0
```

(4) Divide. Use long division. Make sure you line up your answers correctly. When you are through dividing, the answer above the line is a decimal. It means the same thing as the fraction you started with.

Sometimes, when you try to turn a fraction into a decimal, you find out you could keep on dividing forever. Look at this problem:

$\frac{7}{11}$ = 11/ 7

↓

```
11/ 7.000
```

↓

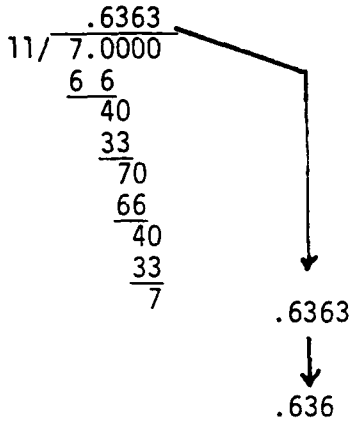
```
   .636363
11/ 7.000000
   66
   40
   33
   70
   66
   40
   33
   70
   66
   40
   33
    7
```

Even after doing this many steps, you still have a remainder. You will always have a remainder. If you kept dividing until your numbers reached all the way around Fort Ord, you would still have a remainder.

 Name _____

So, you round your answer. This means you cut it off at a sensible place. Many people like to cut off a decimal after three places. This means there are three digits to the right of the decimal point.

In order to round a decimal, divide it out to one more place than you want. Then "round" the answer.



Divide to four places

Round to three places. If the last number is 4 or less, just drop it. If the last number is 5 or more (5,6,7,8, or 9), then drop it, but add one to the next number to the left.

Here are some rounded decimals.

.3487 ⇨	.349	Round up to .349
.2824 ⇨	.282	Round down to .282
.8493 ⇨	.849	Round down to .849
.7275 ⇨	.728	Round up to .728

Now, look at this example:

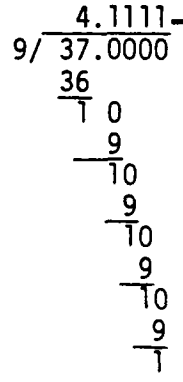
Convert $4\frac{1}{9}$ into a decimal.

$4\frac{1}{9} = \frac{37}{9} = 9/\overline{37}$

(1) Make the problem into a division problem.

$9/\overline{37.0000}$

(2) Add decimals and zeros.



(3) Divide. Go to four places.

(4) Round the answer to three places.

4.1111 → 4.111

It is easy if you follow all the steps.

 Name _____

Instructions: Change these fractions into decimals. Round off to three places when necessary. Do your work on scratch paper but keep it to show to the peer tutor and teacher.

---

1. $\frac{1}{2}$ =

2. $\frac{1}{3}$ =

3. $\frac{1}{4}$ =

4. $\frac{1}{5}$ =

5. $\frac{1}{10}$ =

6. $\frac{1}{100}$ =

7. $\frac{1}{1000}$ =

8. $\frac{3}{4}$ =

9. $\frac{3}{5}$ =

10. $\frac{2}{3}$ =

11. $\frac{2}{5}$ =

12. $\frac{3}{8}$ =

13. $\frac{1}{16}$ =

14. $\frac{3}{7}$ =

15. $\frac{5}{6}$ =

16. $\frac{7}{8}$ =

17. $\frac{4}{9}$ =

18. $\frac{2}{11}$ =

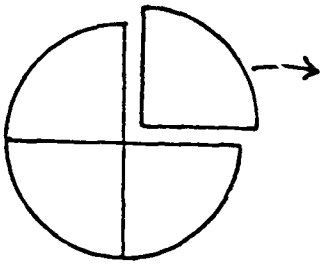
19. $\frac{7}{13}$ =

20. $\frac{74}{135}$ =

Check Sheet
Fractions (Continued)
Activity Sheet 1A
What is a Fraction?

Name _____

3.



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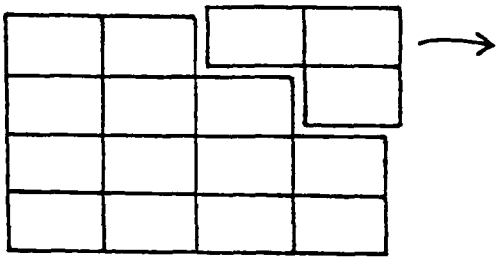

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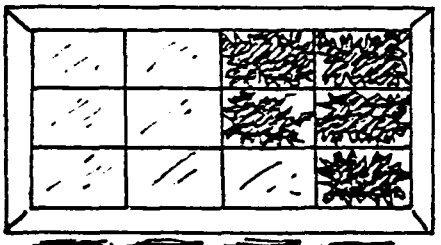
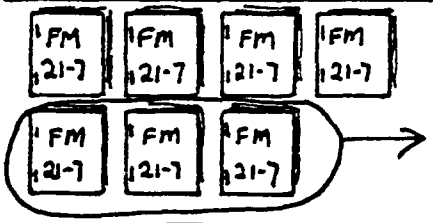
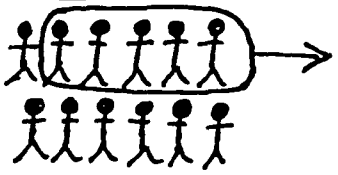


What fraction of window panes are broken?

6.

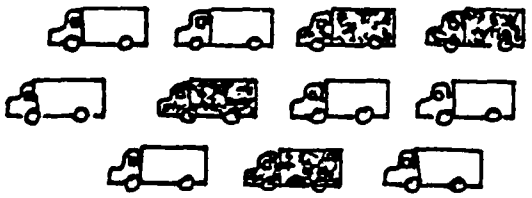


7.



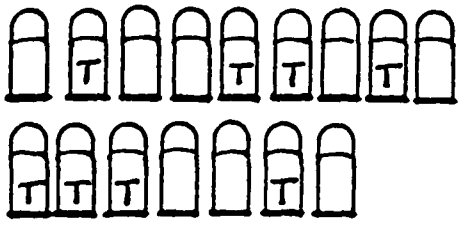
What fraction got volunteered for K.P.?

8.



What fraction of trucks are camouflage painted?

9.



What fraction of these rounds are tracers (marked with a T)?

ANSWERS

3. $\frac{1}{4}$

4. $\frac{3}{16}$

5. $\frac{5}{12}$

6. $\frac{3}{7}$

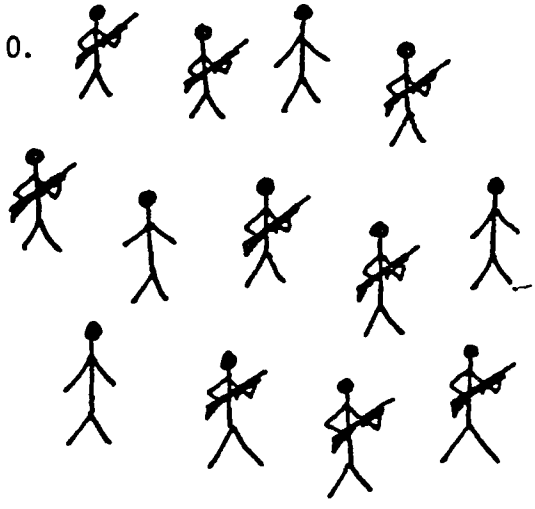
7. $\frac{5}{12}$

8. $\frac{4}{11}$

9. $\frac{8}{16}$ or $\frac{4}{8}$ or $\frac{2}{4}$ or $\frac{1}{2}$

Check Sheet
Fractions (Continued)
Activity Sheet 1A
What is a Fraction?

Name _____

10. 

What fraction of the men are carrying rifles?

10. $\frac{9}{13}$

CHECK SHEET
Fractions (Continued)
Activity Sheet 2A
Types of Fractions

Name _____

		Proper	Improper	Mixed
1.	$\frac{1}{2}$	■	□	□
2.	$\frac{2}{3}$	■	□	□
3.	$\frac{5}{6}$	■	□	□
4.	$\frac{12}{9}$	□	■	□
5.	$2\frac{1}{3}$	□	□	■
6.	$\frac{7}{3}$	□	■	□
7.	$\frac{3}{7}$	■	□	□
8.	$\frac{4}{11}$	■	□	□
9.	$2\frac{5}{8}$	□	□	■
10.	$\frac{5}{8}$	■	□	□

		Proper	Improper	Mixed
11.	$\frac{8}{5}$	□	■	□
12.	$7\frac{9}{10}$	□	□	■
13.	$\frac{14}{8}$	□	■	□
14.	$\frac{10}{11}$	■	□	□
15.	$\frac{11}{10}$	□	■	□
16.	$\frac{3}{4}$	■	□	□
17.	$\frac{9}{21}$	■	□	□
18.	$17\frac{4}{5}$	□	□	■
19.	$\frac{16}{33}$	■	□	□
20	$\frac{93}{92}$	□	■	□

CHECK SHEET
Fractions (Continued)
Activity Sheet 3A
Changing Mixed Numbers to Fractions

1. $5\frac{2}{3} = \frac{17}{3}$

2. $3\frac{5}{6} = \frac{23}{6}$

3. $4\frac{1}{8} = \frac{33}{8}$

4. $1\frac{6}{10} = \frac{16}{10}$

5. $2\frac{5}{9} = \frac{23}{9}$

6. $5\frac{3}{4} = \frac{23}{4}$

7. $7\frac{3}{8} = \frac{59}{8}$

8. $3\frac{1}{9} = \frac{28}{9}$

9. $4\frac{3}{11} = \frac{47}{11}$

10. $8\frac{5}{8} = \frac{69}{8}$

11. $6\frac{3}{4} = \frac{27}{4}$

12. $8\frac{1}{7} = \frac{57}{7}$

13. $19\frac{2}{3} = \frac{59}{3}$

14. $11\frac{1}{2} = \frac{23}{2}$

15. $57\frac{3}{4} = \frac{231}{4}$

Check Sheet
Fractions
Activity Sheet 4A
Reducing Proper Fractions

Name_____

In this lesson you will learn to reduce fractions. You do this by dividing numbers into the numerator (top number) and denominator (bottom number) of a fraction. This produces a fraction that is in its simplest form.

Reducing proper fractions takes some judgment. You start with 2 and try numbers (2, 3, 4, 5, etc.) until you find a number that will divide into both the numerator and denominator evenly. You keep doing that until you can't do it any more. At that point the fraction is reduced.

Examples:

1. $\frac{5}{10}$ $\frac{5 \div 5}{10 \div 5} = \frac{1}{2}$ because $5 \div 5 = 1$ and $10 \div 5 = 2$

2. $\frac{5}{50}$ $\frac{5 \div 5}{50 \div 5} = \frac{1}{10}$

3. $\frac{40}{200}$ $\frac{40 \div 4}{200 \div 4} = \frac{10}{50}$ $\frac{10 \div 5}{50 \div 5} = \frac{2}{10}$ $\frac{2 \div 2}{10 \div 2} = \frac{1}{5}$

You may have to divide several times until you can't divide any more numbers into both halves of the fraction.

Instructions: Reduce these fractions. Write out all of your steps.

1. $\frac{6}{12} = \frac{1}{2}$

2. $\frac{15}{225} = \frac{1}{15}$

3. $\frac{14}{42} = \frac{1}{3}$

4. $\frac{9}{27} = \frac{1}{3}$

5. $\frac{18}{27} = \frac{2}{3}$

6. $\frac{14}{28} = \frac{1}{2}$

CHECK SHEET

Fractions

Activity Sheet 4A, Continued
Reducing Proper Fractions

Name _____

7. $\frac{8}{28} = \frac{2}{7}$

8. $\frac{22}{46} = \frac{11}{23}$

9. $\frac{30}{36} = \frac{5}{6}$

10. $\frac{21}{24} = \frac{7}{8}$

11. $\frac{32}{38} = \frac{16}{19}$

12. $\frac{5}{50} = \frac{1}{10}$

13. $\frac{9}{63} = \frac{1}{7}$

14. $\frac{8}{56} = \frac{1}{7}$

15. $\frac{16}{23} = \frac{2}{3}$

16. $\frac{18}{30} = \frac{3}{5}$

17. $\frac{13}{39} = \frac{1}{3}$

18. $\frac{7}{49} = \frac{1}{7}$

19. $\frac{18}{22} = \frac{9}{11}$

20. $\frac{8}{72} = \frac{1}{9}$

CHECK SHEET

Fractions

Activity Sheet 5A, Continued

Reducing Improper Fractions

Name_____

1.

2.

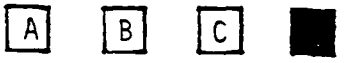
3.

4.

5.

6.

7.

8. 

9.

10.

11.

12.

13.

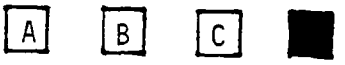
14.

15.

16.

17.

18.

19. 

20.

CHECK SHEET
Fractions
Activity Sheet 6A, Continued
Finding Common Denominators

Name _____

1. $\frac{2}{3} + \frac{1}{4}$

$\frac{8}{12} + \frac{3}{12}$

2. $\frac{1}{6} + \frac{1}{7}$

$\frac{7}{42} + \frac{6}{42}$

3. $\frac{1}{5} + \frac{3}{7}$

$\frac{7}{35} + \frac{15}{35}$

4. $\frac{1}{2} + \frac{1}{3}$

$\frac{3}{6} + \frac{2}{6}$

5. $\frac{1}{10} + \frac{1}{2}$

$\frac{2}{20} + \frac{10}{20}$

6. $\frac{1}{8} + \frac{1}{6}$

$\frac{6}{46} + \frac{8}{48}$

7. $\frac{4}{7} - \frac{3}{11}$

$\frac{44}{77} - \frac{21}{77}$

8. $\frac{8}{11} - \frac{2}{3}$

$\frac{24}{33} - \frac{22}{33}$

9. $\frac{5}{6} + \frac{6}{7}$

$\frac{35}{42} + \frac{36}{42}$

10. $\frac{3}{4} - \frac{3}{5}$

$\frac{15}{20} - \frac{12}{20}$

11. $\frac{3}{8} - \frac{2}{9}$

$\frac{27}{72} - \frac{16}{72}$

12. $\frac{5}{7} - \frac{3}{5}$

$\frac{25}{35} - \frac{21}{35}$

13. $\frac{7}{8} + \frac{4}{5}$

$\frac{35}{40} + \frac{32}{40}$

14. $\frac{2}{9} + \frac{7}{11}$

$\frac{22}{99} + \frac{63}{99}$

15. $\frac{4}{5} + \frac{5}{4}$

$\frac{16}{20} + \frac{25}{20}$

CHECK SHEET
Fractions
Activity Sheet 6A, Continued
Finding Common Denominators

16. $\frac{4}{7} + \frac{6}{13}$

$\frac{52}{91} + \frac{42}{91}$

17. $\frac{1}{3} + \frac{7}{8}$

$\frac{8}{24} + \frac{21}{24}$

18. $\frac{4}{9} + \frac{5}{11}$

$\frac{44}{99} + \frac{45}{99}$

19. $\frac{7}{20} + \frac{2}{5}$

$\frac{35}{100} + \frac{40}{100}$

20. $\frac{7}{9} + \frac{3}{8}$

$\frac{56}{72} + \frac{27}{72}$

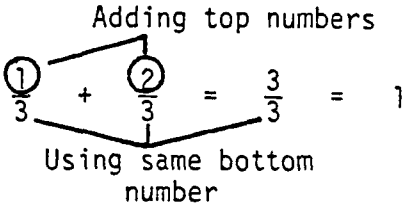
Check Sheet
Fractions
Activity Sheet 7A
Adding Fractions With Common Denominators

Name _____

In this lesson you will learn to add fractions that have the same bottom number (denominator).

Adding fractions with common denominators is very easy. All you have to do is add the top numbers together to get the new numerator (top number). The answer's denominator is the same bottom number as the fractions in the problem.

Examples:



Remember to reduce the answer fraction like you did in Activity Sheets 4A and 5A.

$\frac{1}{6} + \frac{4}{6} = \frac{5}{6}$

$\frac{3}{8} + \frac{7}{8} = \frac{10}{8} = 1\frac{2}{8} = 1\frac{1}{4}$

$\frac{16}{42} + \frac{23}{42} = \frac{39}{42} = \frac{13}{14}$

Instructions: Add up these fractions and reduce the answer to its simplest form. If you have trouble with reducing the answer, look at Activity Sheets 4A and 5A.

1. $\frac{12}{13} + \frac{9}{13} =$

$1\frac{8}{13}$

3. $\frac{2}{9} + \frac{7}{9} =$

1

5. $\frac{9}{23} + \frac{16}{23} =$

$1\frac{2}{23}$

2. $\frac{3}{8} + \frac{5}{8} =$

1

4. $\frac{4}{7} + \frac{3}{7} =$

1

6. $\frac{2}{5} + \frac{4}{5} =$

$1\frac{1}{5}$

CHECK SHEET

Fractions

Activity Sheet 7A, Continued

Adding Fractions with Common Denominators

Name_____

7. $\frac{5}{10} + \frac{4}{10} =$

$\frac{9}{10}$

8. $\frac{9}{11} + \frac{5}{11} =$

$1\frac{3}{11}$

9. $\frac{14}{15} + \frac{13}{15} =$

$1\frac{4}{5}$

10. $\frac{12}{17} + \frac{9}{17} =$

$1\frac{4}{17}$

11. $\frac{21}{75} + \frac{35}{75} =$

$\frac{56}{75}$

12. $\frac{25}{83} + \frac{78}{83} =$

$1\frac{10}{83}$

13. $\frac{16}{19} + \frac{12}{19} =$

$1\frac{9}{19}$

14. $\frac{27}{47} + \frac{41}{47} =$

$1\frac{21}{47}$

15. $\frac{42}{51} + \frac{25}{51} =$

$1\frac{16}{51}$

16. $\frac{7}{26} + \frac{5}{26} =$

$\frac{6}{13}$

17. $\frac{17}{25} + \frac{11}{25} =$

$1\frac{3}{25}$

18. $\frac{9}{42} + \frac{5}{42} =$

$\frac{1}{3}$

19. $\frac{16}{53} + \frac{9}{53} =$

$\frac{25}{53}$

20. $\frac{65}{100} + \frac{35}{100} =$

1

Check Sheet
Fractions
Activity Sheet 8A, Continued
Adding Fractions with
Different Denominators

Name_____

1. $\frac{1}{2} + \frac{1}{1} = 1\frac{1}{2}$

2. $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$

3. $\frac{1}{3} + \frac{1}{4} = \frac{7}{12}$

4. $\frac{1}{3} + \frac{1}{5} = \frac{8}{15}$

5. $\frac{1}{3} + \frac{1}{6} = \frac{1}{2}$

6. $\frac{1}{3} + \frac{1}{7} = \frac{10}{21}$

7. $\frac{1}{4} + \frac{1}{7} = \frac{11}{28}$

8. $\frac{1}{5} + \frac{1}{4} = \frac{9}{20}$

9. $\frac{1}{6} + \frac{1}{2} = \frac{2}{3}$

10. $\frac{1}{4} + \frac{1}{9} = \frac{13}{36}$

Check Sheet
Fractions
Activity Sheet 8A, Continued
Adding Fractions with
Different Denominators

Name_____

11. $\frac{3}{5} + \frac{1}{3} = \frac{14}{15}$

12. $\frac{3}{4} + \frac{1}{8} = \frac{7}{8}$

13. $\frac{3}{8} + \frac{2}{3} = 1\frac{1}{24}$

14. $\frac{5}{6} + \frac{6}{5} = 2\frac{1}{30}$

15. $\frac{4}{9} + \frac{2}{7} = \frac{46}{63}$

16. $\frac{3}{5} + \frac{8}{9} = 1\frac{22}{45}$

17. $\frac{1}{3} + \frac{2}{5} = \frac{11}{15}$

18. $\frac{3}{7} + \frac{1}{8} = \frac{31}{56}$

19. $\frac{2}{9} + \frac{3}{7} = \frac{41}{63}$

20. $\frac{7}{8} + \frac{8}{9} = 1\frac{55}{72}$

CHECK SHEET
Fractions
Activity Sheet 9A, Continued
Adding Mixed Numbers

Name_____

Instructions: Add up these problems. Add the fractions first. Then, add the whole numbers. You may have to find common denominators. Then you reduce the fractions answer to its simplest terms. Last, add the whole numbers answer and the fractions answer together.

Example: $2\frac{3}{8} + 4\frac{6}{7} =$

$2 + 4 = (6)$ $\quad \frac{3}{8} + \frac{6}{7} = \frac{3 \times 7}{8 \times 7} + \frac{8 \times 6}{8 \times 7} = \frac{21}{56} + \frac{48}{56} = \frac{69}{56} = \left(1\frac{13}{56}\right)$

$6 + 1\frac{13}{56} = 7\frac{13}{56}$

---

1. $1\frac{1}{2} + 1\frac{1}{3} = 2\frac{5}{6}$

2. $1\frac{1}{4} + 1\frac{1}{3} = 2\frac{7}{12}$

3. $1\frac{3}{8} + 1\frac{1}{6} = 2\frac{13}{24}$

4. $3\frac{5}{7} + 4\frac{1}{5} = 7\frac{32}{35}$

5. $1\frac{2}{3} + 1\frac{3}{4} = 3\frac{5}{12}$

6. $1\frac{3}{5} + 1\frac{7}{8} = 3\frac{19}{40}$

7. $4\frac{2}{9} + 7\frac{5}{8} = 11\frac{61}{72}$

8. $3\frac{1}{11} + 5\frac{1}{7} = 8\frac{18}{77}$

CHECK SHEET
Fractions
Activity Sheet 9A, Continued
Adding Mixed Numbers

Name _____

9. $17\frac{3}{7} + 2\frac{9}{10} = 20\frac{23}{70}$

10. $6\frac{7}{10} + 9\frac{13}{14} = 16\frac{22}{35}$

11. $4\frac{2}{5} + 5\frac{5}{6} = 10\frac{7}{30}$

12. $8\frac{4}{9} + 8\frac{3}{4} = 17\frac{7}{36}$

13. $7\frac{2}{3} + 5\frac{1}{5} = 12\frac{13}{15}$

14. $11\frac{4}{5} + 6\frac{7}{11} = 18\frac{24}{55}$

15. $10\frac{2}{7} + 12\frac{1}{2} = 22\frac{11}{14}$

16. $14\frac{2}{5} + 18\frac{7}{9} = 33\frac{8}{45}$

17. $22\frac{4}{11} + 7\frac{7}{10} = 30\frac{7}{110}$

18. $15\frac{9}{10} + 19\frac{1}{4} = 35\frac{3}{20}$

19. $27\frac{3}{5} + 55\frac{4}{7} = 83\frac{6}{35}$

20. $138\frac{1}{3} + 116\frac{1}{8} = 254\frac{11}{24}$

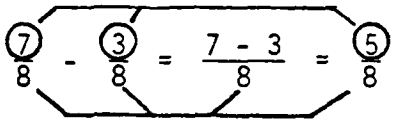
Check Sheet
Fractions
Activity Sheet 10A Name_____
Subtracting Fractions with Common Denominators

In this lesson you will learn to subtract fractions that have the same bottom number (denominator).

Subtracting fractions with common denominators (bottom numbers) is very easy. All you have to do is subtract the top numbers (numerators) of each fraction from each other to get the answer's numerator. To get the answer's denominator you just use the same bottom number as the fractions in the problem.

Example: $\frac{2}{3} - \frac{1}{3} = \frac{2-1}{3} = \frac{1}{3}$

Subtracting top numbers 7 - 3 = 5



Using the same bottom numbers

If your answer can be reduced, remember to reduce it.

$$\frac{5}{6} - \frac{1}{6} = \frac{5-1}{6} = \frac{4}{6} = \frac{2}{3}$$

Instructions: Do subtraction on the problems. If necessary, reduce the answer to its simplest form. If you have trouble reducing the answer, look at Fractions Activity Sheet 4A.

1. $\frac{4}{7} - \frac{3}{7} = \frac{1}{7}$

2. $\frac{7}{9} - \frac{2}{9} = \frac{5}{9}$

3. $\frac{5}{8} - \frac{3}{8} = \frac{1}{4}$

4. $\frac{12}{13} - \frac{9}{13} = \frac{3}{13}$

5. $\frac{5}{10} - \frac{4}{10} = \frac{1}{10}$

6. $\frac{9}{11} - \frac{5}{11} = \frac{4}{11}$

Check Sheet
Fractions
Activity Sheet 10A, Continued
Subtracting Fractions with Common Denominators

Name_____

7. $\frac{4}{5} - \frac{2}{5} = \frac{2}{5}$

8. $\frac{16}{23} - \frac{9}{23} = \frac{7}{23}$

9. $\frac{12}{17} - \frac{9}{17} = \frac{3}{17}$

10. $\frac{14}{15} - \frac{12}{15} = \frac{2}{15}$

11. $\frac{35}{75} - \frac{21}{75} = \frac{14}{75}$

12. $\frac{78}{213} - \frac{25}{213} = \frac{53}{213}$

13. $\frac{42}{119} - \frac{25}{119} = \frac{1}{7}$

14. $\frac{112}{193} - \frac{16}{193} = \frac{96}{193}$

15. $\frac{83}{296} - \frac{44}{296} = \frac{39}{296}$

16. $\frac{521}{842} - \frac{291}{842} = \frac{115}{421}$

17. $\frac{117}{251} - \frac{110}{251} = \frac{7}{251}$

18. $\frac{166}{753} - \frac{97}{753} = \frac{23}{251}$

19. $\frac{471}{476} - \frac{275}{476} = \frac{7}{17}$

20. $\frac{65}{100} - \frac{35}{100} = \frac{3}{10}$

Check Sheet
Fractions
Activity Sheet 11A
Subtracting Fractions with Different Denominators

Name _____

This activity will teach you to subtract fractions that have different bottom numbers (denominators). The first and most important step is to find common denominators for each problem. If you don't know how to find common denominators, see Activity Sheet 10A.

When your fractions have common denominators, then (as described in Fraction Activity Sheet 10A), you subtract the numerators to get the answer's numerator. For the answer's denominator, use the same denominator as the rest of the fractions in the problem. For example:

$$\frac{3}{6} - \frac{2}{6} = \frac{3-2}{6} = \frac{1}{6}$$

Now, in some cases you will need to reduce the answer. If you don't know how to reduce fractions, see Activity Sheet 4A.

Instructions: Subtract the fractions in each problem from each other and reduce the answers where necessary. Remember to find the common denominators first.

Examples:

1. $\frac{1}{4} - \frac{1}{8} = \frac{1 \times 8}{4 \times 8} - \frac{1 \times 4}{8 \times 4} = \frac{8}{32} - \frac{4}{32} = \frac{4}{32} = \frac{1}{8}$

2. $\frac{1}{5} - \frac{1}{6} = \frac{1 \times 6}{5 \times 6} - \frac{1 \times 5}{6 \times 5} = \frac{6}{30} - \frac{5}{30} = \frac{1}{30}$

---

1. $\frac{1}{1} - \frac{1}{2} = \frac{1}{2}$

2. $\frac{1}{2} - \frac{1}{4} = \frac{1}{4}$

3. $\frac{1}{3} - \frac{1}{4} = \frac{1}{12}$

4. $\frac{1}{3} - \frac{1}{5} = \frac{2}{15}$

Check Sheet
Fractions
Activity Sheet 11A, Continued
Subtracting Fractions with
Different Denominators

Name_____

5. $\frac{1}{3} - \frac{1}{6} = \frac{1}{6}$

6. $\frac{1}{3} - \frac{1}{7} = \frac{4}{21}$

7. $\frac{1}{4} - \frac{1}{7} = \frac{3}{28}$

8. $\frac{1}{4} - \frac{1}{5} = \frac{1}{20}$

9. $\frac{1}{2} - \frac{1}{6} = \frac{1}{3}$

10. $\frac{1}{4} - \frac{1}{9} = \frac{5}{36}$

11. $\frac{3}{5} - \frac{1}{3} = \frac{4}{15}$

12. $\frac{3}{4} - \frac{1}{8} = \frac{5}{8}$

13. $\frac{2}{3} - \frac{3}{8} = \frac{7}{24}$

14. $\frac{6}{5} - \frac{5}{6} = \frac{11}{30}$

Check Sheet
Fractions
Activity Sheet 11A, Continued
Subtracting Fractions with
Different Denominators

Name_____

15. $\frac{4}{9} - \frac{2}{7} = \frac{10}{63}$

16. $\frac{8}{9} - \frac{3}{5} = \frac{13}{45}$

17. $\frac{2}{5} - \frac{1}{3} = \frac{1}{15}$

18. $\frac{3}{7} - \frac{1}{6} = \frac{11}{42}$

19. $\frac{7}{8} - \frac{6}{7} = \frac{1}{56}$

20. $\frac{9}{10} - \frac{8}{9} = \frac{1}{90}$

CHECK SHEET
Fractions
Activity Sheet 12A, Continued
Subtracting Mixed Numbers

Name_____

1. $1\frac{2}{3} - 1\frac{1}{2} = \frac{1}{6}$

2. $1\frac{3}{4} - 1\frac{1}{3} = \frac{5}{12}$

3. $1\frac{5}{6} - 1\frac{3}{8} = \frac{11}{24}$

4. $3\frac{1}{5} - 2\frac{5}{7} = \frac{17}{35}$

5. $3\frac{2}{3} - 1\frac{3}{4} = 1\frac{11}{12}$

6. $1\frac{7}{8} - 1\frac{3}{5} = \frac{11}{40}$

7. $7\frac{5}{8} - 4\frac{2}{9} = 3\frac{29}{72}$

8. $5\frac{1}{10} - 3\frac{1}{11} = 2\frac{1}{110}$

9. $17\frac{3}{7} - 2\frac{9}{10} = 14\frac{37}{70}$

10. $9\frac{13}{14} - 6\frac{7}{8} = 3\frac{3}{56}$

11. $5\frac{5}{6} - 4\frac{2}{5} = 1\frac{13}{30}$

12. $9\frac{4}{9} - 8\frac{3}{4} = \frac{25}{36}$

13. $10\frac{2}{7} - 9\frac{1}{2} = \frac{11}{14}$

Check Sheet
Fractions
Activity Sheet 12A, Continued
Subtracting Mixed Numbers

Name_____

14. $7\frac{1}{5} - 5\frac{2}{3} = 1\frac{8}{15}$

15. $18\frac{7}{9} - 14\frac{2}{5} = 4\frac{17}{45}$

16. $22\frac{7}{12} - 7\frac{4}{11} = 15\frac{29}{132}$

17. $19\frac{1}{4} - 15\frac{9}{10} = 3\frac{7}{20}$

18. $11\frac{4}{5} - 6\frac{7}{11} = 5\frac{9}{55}$

19. $55\frac{4}{7} - 27\frac{3}{5} = 27\frac{34}{35}$

20. $138\frac{1}{8} - 116\frac{1}{3} = 21\frac{19}{24}$

CHECK SHEET
Fractions (Continued)
Activity Sheet 13A
Cancelling

Name _____

1. $\frac{3}{4} \times \frac{2}{9} = \frac{1}{2} \times \frac{1}{3}$

2. $\frac{4}{5} \times \frac{5}{8} = \frac{1}{1} \times \frac{1}{2}$

3. $\frac{2}{3} \times \frac{9}{10} = \frac{1}{1} \times \frac{3}{5}$

4. $\frac{3}{8} \times \frac{1}{36} = \frac{1}{8} \times \frac{1}{12}$

5. $\frac{1}{2} \times \frac{4}{7} = \frac{1}{7} \times \frac{2}{7}$

6. $\frac{6}{7} \times \frac{6}{14} = \frac{3}{7} \times \frac{6}{7}$

7. $\frac{9}{11} \times \frac{1}{18} = \frac{1}{11} \times \frac{1}{2}$

8. $\frac{13}{14} \times \frac{21}{169} = \frac{1}{2} \times \frac{3}{13}$

9. $\frac{25}{26} \times \frac{52}{625} = \frac{1}{1} \times \frac{2}{25}$

10. $\frac{6}{5} \times \frac{25}{36} = \frac{1}{1} \times \frac{5}{6}$

11. $\frac{4}{11} \times \frac{121}{16} = \frac{1}{1} \times \frac{11}{4}$

12. $\frac{15}{32} \times \frac{128}{75} = \frac{1}{1} \times \frac{4}{1}$

13. $\frac{45}{51} \times \frac{17}{9} = \frac{5}{3} \times \frac{1}{1}$

14. $\frac{23}{52} \times \frac{13}{161} = \frac{1}{4} \times \frac{1}{7}$

15. $\frac{46}{36} \times \frac{6}{10} = \frac{23}{6} \times \frac{1}{5}$

16. $\frac{12}{15} \times \frac{9}{16} = \frac{3}{5} \times \frac{3}{4}$

17. $\frac{13}{4} \times \frac{2}{39} = \frac{1}{2} \times \frac{1}{3}$

18. $\frac{14}{30} \times \frac{10}{28} = \frac{1}{3} \times \frac{1}{2}$

19. $\frac{25}{36} \times \frac{9}{50} = \frac{1}{4} \times \frac{1}{2}$

20. $\frac{21}{84} \times \frac{16}{27} = \frac{7}{21} \times \frac{4}{9}$ OR $\frac{1}{3} \times \frac{4}{9}$

Check Sheet
Fractions
Activity Sheet 14A
Multiplying Fractions Times Fractions Name _____

In this lesson you will learn how to multiply fractions times fractions.

$$\frac{1}{2} \times \frac{2}{3} = ?$$

You do this in two steps. First, multiply the numerators times each other; then, multiply the denominators times each other.

$$\frac{1}{2} \times \frac{2}{3} = \frac{1 \times 2}{2 \times 3} = \frac{2}{6} \quad \text{Then reduce} \quad \frac{2 \div 2}{6 \div 2} = \frac{1}{3}$$

Multiplying the numerators and multiplying the denominators are two separate problems. They give you the new numerator and the new denominator.

Instructions: Multiply these problems and reduce the answers if necessary.

Examples:

(a) $\frac{3}{4} \times \frac{7}{8} = \frac{3 \times 7}{4 \times 8} = \frac{21}{32}$

(b) $\frac{3}{9} \times \frac{6}{7} = \frac{3 \times 6}{9 \times 7} = \frac{18}{63} = \frac{2}{7}$ (reduced)

(c) $\frac{2}{5} \times \frac{3}{5} = \frac{2 \times 3}{5 \times 5} = \frac{6}{25}$

---

1. $\frac{1}{4} \times \frac{1}{5} = \frac{1}{20}$

2. $\frac{1}{3} \times \frac{1}{3} = \frac{1}{9}$

3. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

4. $\frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$

5. $\frac{3}{5} \times \frac{2}{9} = \frac{2}{15}$

6. $\frac{1}{4} \times \frac{2}{10} = \frac{1}{20}$

7. $\frac{2}{3} \times \frac{3}{8} = \frac{1}{4}$

8. $\frac{5}{6} \times \frac{5}{7} = \frac{25}{42}$

Check Sheet
Fractions (Continued)
Activity Sheet 14A
Multiplying Fractions Times Fractions

Name _____

9. $\frac{2}{5} \times \frac{5}{8} = \frac{1}{4}$

10. $\frac{3}{4} \times \frac{3}{10} = \frac{9}{40}$

11. $\frac{2}{7} \times \frac{2}{9} = \frac{4}{63}$

12. $\frac{5}{12} \times \frac{4}{15} = \frac{1}{9}$

13. $\frac{3}{4} \times \frac{4}{5} = \frac{3}{5}$

14. $\frac{5}{11} \times \frac{3}{10} = \frac{3}{22}$

15. $\frac{1}{8} \times \frac{1}{4} = \frac{1}{32}$

16. $\frac{3}{6} \times \frac{4}{6} = \frac{1}{3}$

17. $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$

18. $\frac{2}{8} \times \frac{5}{4} = \frac{5}{16}$

19. $\frac{6}{9} \times \frac{7}{9} = \frac{14}{27}$

20. $\frac{5}{14} \times \frac{6}{7} = \frac{15}{49}$

Check Sheet
Fractions
Activity Sheet 15A
Multiplying Whole Numbers
Times Fractions

Name _____

In this lesson you will learn to multiply whole numbers times fractions.

For instance, $2 \times \frac{1}{3} = ?$

This is very simple. All you have to do is multiply the <u>whole number times the numerator</u> (top number) <u>of the fraction</u>.

$$2 \times \frac{1}{3} = \frac{2 \times 1}{3} = \frac{2}{3}$$

Then put the answer <u>over the denominator</u> (bottom number.) You have your answer.

Look at these:

$$4 \times \frac{1}{5} = \frac{4 \times 1}{5} = \frac{4}{5} \qquad 5 \times \frac{2}{7} = \frac{5 \times 2}{7} = \frac{10}{7} = 1\frac{3}{7}$$

Notice that you can sometimes <u>reduce</u> your answer. To find out how to reduce, see Activity Sheets 4A and 5A.

Instructions: Multiply the whole number times the fraction in each problem below. Reduce the answers if you need to.

Example: $7 \times \frac{3}{8} = \frac{7 \times 3}{8} = \frac{21}{8} = 2\frac{5}{8}$

---

1. $5 \times \frac{1}{5} = 1$

2. $7 \times \frac{1}{7} = 1$

3. $4 \times \frac{1}{4} = 1$

4. $6 \times \frac{6}{36} = 1$

5. $3 \times \frac{5}{15} = 1$

6. $2 \times \frac{12}{24} = 1$

Check Sheet
Fractions (Continued)
Activity Sheet 15A
Multiplying Whole Numbers
Times Fractions

Name _____

7. $9 \times \frac{14}{42} = 3$

8. $8 \times \frac{6}{24} = 2$

9. $10 \times \frac{30}{100} = 3$

10. $7 \times \frac{3}{10} = 2\frac{1}{10}$

11. $5 \times \frac{6}{11} = 2\frac{8}{11}$

12. $4 \times \frac{7}{9} = 3\frac{1}{9}$

13. $6 \times \frac{4}{13} = 1\frac{11}{13}$

14. $11 \times \frac{8}{13} = 6\frac{10}{13}$

15. $17 \times \frac{6}{51} = 2$

16. $21 \times \frac{17}{18} = 19\frac{5}{6}$

17. $16 \times \frac{3}{14} = 3\frac{3}{7}$

18. $5 \times \frac{3}{4} = 3\frac{3}{4}$

19. $72 \times \frac{3}{18} = 12$

20. $112 \times \frac{16}{21} = 85\frac{1}{3}$

Check Sheet
Fractions
Activity Sheet 16A
Multiplying Mixed Numbers

Name _____

This activity will teach you to multiply mixed numbers times each other.

$$2\frac{1}{3} \times 3\frac{1}{2} =$$

The trick here is to change the mixed numbers into fractions. You learned how to do that in Activity Sheet 3A.

Look at this problem:

$$2\frac{1}{3} \times 4\frac{1}{2} = ?$$

First, change the fractions to mixed numbers.

$$2\frac{1}{3} \times 4\frac{1}{2}$$

$$\downarrow \qquad \downarrow$$

$$\frac{7}{3} \times \frac{9}{2}$$

because 2 x 3 = 6 plus 1 = 7, and
4 x 2 = 8 plus 1 = 9.

Next, multiply the two fractions together, like you learned in Activity Sheet 15A.

$$\frac{7}{3} \times \frac{9}{2} = \frac{7 \times 9}{3 \times 2} = \frac{63}{6}$$

because 7 x 9 = 63 and
3 x 2 = 6.

Last, you need to <u>reduce</u> the fraction. Turn it into a mixed number, like you learned in Activity Sheets 4A and 5A.

$$\frac{63}{6} = 6\overline{)63} = 10\frac{3}{6} = 10\frac{1}{2}$$

$$\begin{array}{r} 10\frac{3}{6} \\ 6\overline{)63} \\ \underline{6} \\ 03 \\ \underline{0} \\ 3 \end{array}$$

because $63 \div 6 = 10\frac{3}{6}$, and $\frac{3}{6} = \frac{1}{2}$.

Instructions: Multiply these mixed numbers. Follow the steps outlined above. Reduce the answers where necessary.

---

1. $1\frac{1}{3} \times 2\frac{1}{3} = 3\frac{1}{9}$

2. $1\frac{1}{4} \times 1\frac{1}{5} = 1\frac{1}{2}$

3. $2\frac{1}{5} \times 1\frac{2}{3} = 3\frac{2}{3}$

4. $1\frac{1}{6} \times 3\frac{1}{2} = 4\frac{1}{12}$

CHECK SHEET
Fractions
Activity Sheet 16A, Continued
Multiplying Mixed Numbers

Name _____

5. $2\frac{3}{5} \times 3\frac{2}{9} = 8\frac{17}{45}$

6. $4\frac{2}{3} \times 1\frac{3}{8} = 6\frac{5}{12}$

7. $2\frac{5}{6} \times 3\frac{5}{7} = 10\frac{11}{21}$

8. $1\frac{1}{4} \times 3\frac{2}{10} = 4$

9. $5\frac{2}{5} \times 2\frac{5}{8} = 14\frac{7}{40}$

10. $3\frac{3}{4} \times 2\frac{3}{10} = 8\frac{5}{8}$

11. $2\frac{3}{4} \times 4\frac{4}{5} = 13\frac{1}{5}$

12. $7\frac{2}{7} \times 3\frac{1}{9} = 22\frac{2}{3}$

13. $4\frac{7}{12} \times 2\frac{4}{15} = 10\frac{7}{18}$

14. $6\frac{2}{9} \times 1\frac{1}{3} = 8\frac{8}{27}$

15. $2\frac{2}{3} \times 2\frac{3}{4} = 7\frac{1}{3}$

16. $12\frac{1}{2} \times 15\frac{1}{4} = 190\frac{5}{8}$

17. $11\frac{2}{3} \times 17\frac{3}{4} = 207\frac{1}{12}$

18. $5\frac{2}{8} \times 4\frac{5}{4} = 27\frac{9}{16}$

19. $3\frac{5}{14} \times 6\frac{6}{7} = 23\frac{1}{49}$

20. $2\frac{6}{9} \times 4\frac{7}{9} = 12\frac{20}{27}$

Check Sheet
Fractions
Activity Sheet 16A, Continued
Multiplying Mixed Numbers

Name _____

5. $2\frac{3}{5} \times 3\frac{2}{9} = 8\frac{17}{45}$

6. $4\frac{2}{3} \times 1\frac{3}{8} = 6\frac{5}{12}$

7. $2\frac{5}{6} \times 3\frac{5}{7} = 10\frac{11}{21}$

8. $1\frac{1}{4} \times 3\frac{2}{10} = 4$

9. $5\frac{2}{5} \times 2\frac{5}{8} = 14\frac{7}{40}$

10. $4\frac{3}{4} \times 2\frac{3}{10} = 10\frac{37}{40}$

11. $2\frac{3}{4} \times 4\frac{4}{5} = 13\frac{1}{5}$

12. $7\frac{2}{7} \times 3\frac{2}{9} = 23\frac{10}{21}$

13. $4\frac{5}{12} \times 2\frac{4}{15} = 10\frac{1}{90}$

14. $6\frac{5}{11} \times 1\frac{3}{10} = 8\frac{43}{110}$

15. $2\frac{2}{3} \times 2\frac{3}{4} = 7\frac{1}{3}$

16. $12\frac{1}{8} \times 15\frac{1}{4} = 184\frac{29}{32}$

17. $11\frac{2}{3} \times 17\frac{3}{4} = 207\frac{1}{12}$

18. $5\frac{2}{8} \times 4\frac{5}{4} = 27\frac{9}{16}$

19. $3\frac{5}{14} \times 6\frac{6}{7} = 23\frac{1}{49}$

20. $2\frac{6}{9} \times 4\frac{7}{9} = 12\frac{20}{27}$

Check Sheet
Fractions
Activity Sheet 17A
Dividing Fractions by Fractions

Name _____

In this activity you will learn how to divide one fraction by another.

$$\frac{1}{3} \div \frac{1}{2} =$$

Dividing fractions is the same as multiplying fractions <u>except</u> for one important step. First, you <u>turn the second fraction in the problem upside down</u> before you multiply.

$$\frac{1}{3} \div \frac{1}{2}$$

$$\frac{1}{3} \times \frac{2}{1}$$

(Second fraction turned upside down and problem sign changed to multiply)

You always turn the second fraction upside down before you multiply. That is the only difference between dividing fractions and multiplying fractions. When you have completed that step, you just multiply the numerators times each other, and the denominators times each other, just as you did in Activity Sheet 15A on multiplying fractions.

Here is the whole process at step at a time:

(1) $\frac{1}{3} \div \frac{1}{4} =$ (1) Turn the second fraction <u>upside down</u>.

(2) $\frac{1}{3} \times \frac{4}{1} =$ (2) <u>Change</u> the <u>sign</u> to <u>multiply</u>.

(3) $\frac{1 \times 4}{3 \times 1} = \frac{4}{3}$ (3) <u>Multiply</u> numerators and denominators.

(4) $\frac{4}{3} = 1\frac{1}{3}$ (4) <u>Reduce</u> the answer if necessary.

Instructions: Divide these fraction problems. Reduce the answers where necessary. Remember the steps you just learned.

---

1. $\frac{1}{3} \div \frac{1}{2} = \frac{2}{3}$

2. $\frac{1}{2} \div \frac{1}{4} = 2$

3. $\frac{1}{3} \div \frac{1}{5} = 1\frac{2}{3}$

4. $\frac{1}{4} \div \frac{1}{7} = 1\frac{3}{4}$

Check Sheet
Fractions
Activity Sheet 17A, Continued
Dividing Fractions by Fractions

Name _____

5. $\frac{1}{3} \div \frac{1}{6} = 2$

6. $\frac{1}{5} \div \frac{1}{4} = \frac{4}{5}$

7. $\frac{1}{2} \div \frac{1}{6} = 3$

8. $\frac{1}{4} \div \frac{1}{9} = 2\frac{1}{4}$

9. $\frac{1}{5} \div \frac{1}{3} = \frac{3}{5}$

10. $\frac{1}{3} \div \frac{1}{4} = 1\frac{1}{3}$

11. $\frac{3}{5} \div \frac{1}{3} = 1\frac{4}{5}$

12. $\frac{3}{4} \div \frac{1}{8} = 6$

13. $\frac{6}{5} \div \frac{5}{6} = 1\frac{11}{25}$

14. $\frac{4}{9} \div \frac{2}{7} = 1\frac{5}{9}$

15. $\frac{8}{9} \div \frac{3}{5} = 1\frac{13}{27}$

16. $\frac{2}{5} \div \frac{1}{3} = 1\frac{1}{5}$

17. $\frac{7}{8} \div \frac{6}{7} = 1\frac{1}{48}$

18. $\frac{2}{3} \div \frac{3}{8} = 1\frac{7}{9}$

19. $\frac{9}{10} \div \frac{8}{9} = 1\frac{1}{80}$

20. $\frac{3}{7} \div \frac{1}{6} = 2\frac{4}{7}$

Check Sheet
Fractions
Activity Sheet 18A , Continued
Dividing Whole Numbers by Fractions or
Fractions by Whole Numbers

Name_____

1. $\frac{1}{5} \div 5 = \frac{1}{25}$

2. $7 \div \frac{1}{7} = 49$

3. $4 \div \frac{1}{4} = 16$

4. $\frac{17}{36} \div 6 = \frac{17}{216}$

5. $3 \div \frac{5}{16} = 9\frac{3}{5}$

6. $2 \div \frac{12}{25} = 4\frac{1}{6}$

7. $9 \div \frac{14}{43} = 27\frac{9}{14}$

8. $\frac{6}{27} \div 8 = \frac{1}{36}$

9. $\frac{100}{30} \div 10 = \frac{1}{3}$

10. $7 \div \frac{3}{10} = 23\frac{1}{3}$

11. $5 \div \frac{6}{11} = 9\frac{1}{6}$

12. $\frac{7}{9} \div 4 = \frac{7}{36}$

13. $6 \div \frac{4}{13} = 19\frac{1}{2}$

14. $\frac{3}{11} \div 11 = \frac{3}{121}$

15. $17 \div \frac{6}{17} = 48\frac{1}{6}$

16. $\frac{17}{18} \div 21 = \frac{17}{378}$

17. $16 \div \frac{3}{14} = 74\frac{2}{3}$

18. $\frac{3}{4} \div 5 = \frac{3}{20}$

19. $72 \div \frac{3}{18} = 432$

20. $\frac{16}{21} \div 112 = \frac{1}{147}$

CHECK SHEET
Fractions
Activity Sheet 19A, Continued
Dividing Mixed Numbers by Mixed Numbers

Name _____

1. $1\frac{1}{3} \div 2\frac{1}{3} = \frac{4}{7}$

2. $1\frac{1}{4} \div 1\frac{1}{5} = 1\frac{1}{24}$

3. $2\frac{1}{5} \div 1\frac{2}{3} = 1\frac{8}{25}$

4. $4\frac{1}{2} \div 3\frac{1}{2} = 1\frac{2}{7}$

5. $2\frac{3}{5} \div 3\frac{2}{10} = \frac{13}{16}$

6. $2\frac{5}{6} \div 1\frac{2}{15} = 2\frac{1}{2}$

7. $4\frac{2}{3} \div 1\frac{2}{9} = 3\frac{9}{11}$

8. $5\frac{3}{5} \div 2\frac{5}{8} = 2\frac{2}{15}$

9. $1\frac{1}{4} \div 3\frac{2}{11} = \frac{11}{28}$

10. $4\frac{3}{4} \div 2\frac{3}{10} = 2\frac{3}{46}$

11. $4\frac{5}{12} \div 2\frac{4}{12} = 1\frac{25}{28}$

12. $7\frac{3}{7} \div 1\frac{1}{7} = 6\frac{1}{2}$

13. $2\frac{3}{4} \div 4\frac{1}{8} = \frac{2}{3}$

14. $10\frac{1}{8} \div 3\frac{3}{10} = 3\frac{3}{44}$

15. $2\frac{3}{8} \div 3\frac{1}{4} = \frac{19}{26}$

16. $6\frac{4}{11} \div 6\frac{8}{22} = 1$

17. $3\frac{1}{4} \div 10\frac{1}{2} = \frac{13}{21}$

18. $16\frac{2}{3} \div 4\frac{1}{6} = 4$

19. $11\frac{2}{3} \div 7\frac{7}{9} = 1\frac{1}{2}$

20. $2\frac{7}{9} \div 4\frac{5}{9} = \frac{25}{41}$

CHECK SHEET
Fractions
Activity Sheet 20A, Continued
Converting Fractions to Decimals

Name _____

Instructions: Change these fractions into decimals. Round off to three places when necessary. Do your work on scratch paper but keep it to show to the peer tutor and teacher.

---

1. $\frac{1}{2}$ = .50 or .5

2. $\frac{1}{3}$ = .333

3. $\frac{1}{4}$ = .25

4. $\frac{1}{5}$ = .20 or .2

5. $\frac{1}{10}$ = .10 or .1

6. $\frac{1}{100}$ = .01

7. $\frac{1}{1000}$ = .001

8. $\frac{3}{4}$ = .75

9. $\frac{3}{5}$ = .60 or .6

10. $\frac{2}{3}$ = .667

11. $\frac{2}{5}$ = .40 or .4

12. $\frac{3}{8}$ = .375

13. $\frac{1}{16}$ = .063

14. $\frac{3}{7}$ = .429

15. $\frac{5}{6}$ = .833

16. $\frac{7}{8}$ = .875

17. $\frac{4}{9}$ = .444

18. $\frac{2}{11}$ = .182

19. $\frac{7}{13}$ = .538

20. $\frac{74}{135}$ = .548

Name _____

MODULE PREVIEW/REVIEW

DECIMALS

Instructions: Use scratch paper to do the problems below. Then choose the correct answer from the four choices. Mark the letter of the correct answer on your answer sheet.

Example: $.23 =$

(a) $\frac{23}{10}$ (c) $\frac{1}{23}$

(b) $\frac{100}{230}$ (d) $\frac{23}{100}$

a	b	c	d
||	||	||	■

If a problem is too hard, skip over it and come back to it later on.

---

1. $.416 =$

(a) $\frac{416}{1000}$ (c) $\frac{41.6}{1000}$

(b) $\frac{100}{416}$ (d) $\frac{416}{100}$

2. $\frac{17}{1000} =$

(a) .0017 (c) .17

(b) .017 (d) 1.7

3. $.698 + .735 + .71 =$

(a) 1.504 (c) 218.3

(b) 15.041 (d) 2.143

4. $13 + .78 + 54 + .6207 + 19 =$

(a) 32.6339 (c) 86.6261

(b) .6371 (d) 87.4007

5. $6.148 + 22.110195 + 7.2 + 5.7 + 3 =$

(a) 4415.8195 (c) 44.158195

(b) 2211.6475 (d) 22.116475

6. $.725 - .49 =$

(a) .235 (c) 6.76

(b) .676 (d) .4175

7. $.6502 - .39754 =$

(a) .25266 (c) .33252

(b) 2.5266 (d) 3.3252

8. $14 - .00731 =$

(a) 14.731 (c) 14.00731

(b) 13.99269 (d) 13.731

9. $4.11 - 1.52 =$

(a) 3.958 (c) .259

(b) 2.59 (d) 5.63

10. $\begin{array}{r} .25 \\ \times\ .7 \\ \hline \end{array}$

(a) 175 (c) 17.5

(b) 1.75 (d) .175

11. $\begin{array}{r} .248 \\ \times\ .65 \\ \hline \end{array}$

(a) 16.120 (c) 1.6120

(b) .16120 (d) .016120

12. $\begin{array}{r} .18 \\ \times\ 7 \\ \hline \end{array}$

(a) 126 (c) 1.26

(b) 12.6 (d) .126

Name_____

13. $\begin{array}{r} 17.4 \\ \times\ .07 \\ \hline \end{array}$

(a) .1218 (c) 121.8
(b) 1.218 (d) 12.18

14. $\begin{array}{r} 1.42 \\ \times\ .64 \\ \hline \end{array}$

(a) 90.88 (c) .9088
(b) .09088 (d) 9.088

IN THE PROBLEMS BELOW, REMEMBER TO ROUND YOUR ANSWER TO THREE DECIMAL PLACES.

15. .7 ÷ .63 =

(a) 1.111 (c) 9.0
(b) .9 (d) 11.11

16. .148 ÷ .723 =

(a) .204 (c) .107
(b) 4.885 (d) .205

17. 276 ÷ .45 =

(a) 613.333 (c) .002
(b) .016 (d) 6.133

18. .654 ÷ 75 =

(a) 114.679 (c) .009
(b) .008 (d) .087

19. 7.8 ÷ 5.3 =

(a) .679 (c) 41.34
(b) 1.472 (d) 14.717

20. 6.331 ÷ 63.1 =

(a) .100 (c) 1.003
(b) 9.967 (d) .101

Answer Sheet
Module Preview/Review
Decimals

Name _____

	a	b	c	d
1.	| |	| |	| |	| |
2.	| |	| |	| |	| |
3.	| |	| |	| |	| |
4.	| |	| |	| |	| |
5.	| |	| |	| |	| |
6.	| |	| |	| |	| |
7.	| |	| |	| |	| |
8.	| |	| |	| |	| |
9.	| |	| |	| |	| |
10.	| |	| |	| |	| |
11.	| |	| |	| |	| |
12.	| |	| |	| |	| |
13.	| |	| |	| |	| |
14.	| |	| |	| |	| |
15.	| |	| |	| |	| |
16.	| |	| |	| |	| |
17.	| |	| |	| |	| |
18.	| |	| |	| |	| |
19.	| |	| |	| |	| |
20.	| |	| |	| |	| |

DECIMALS PREVIEW/REVIEW
ANSWER KEY & DIAGNOSTIC

	a	b	c	d	IF WRONG, ASSIGN:
1.	■				1
2.		■			1
3.				■	2
4.				■	3
5.			■		4
6.	■				5
7.	■				5
8.		■			6
9.		■			7
10.				■	8
11.		■			8
12.			■		9
13.		■			10
14.			■		10
15.	■				11
16.				■	11
17.	■				12
18.			■		12
19.		■			13
20.	■				13

Name _____

MODULE RECORD SHEET

DECIMALS

OBJECTIVE: Use addition, subtraction, multiplication, and division to find the correct answer for any problem with decimals.

SAMPLE TEST ITEMS:

1. 2.8 + .752 =

(a) 10.32 (c) 2.152
(b) 3.552 (d) 7.80

a	b	c	d
||	■	||	||

2. 9.45 ÷ .83 =

(a) .088 (c) 11.386
(b) 7.844 (d) 1.139

a	b	c	d
||	||	■	||

INTRODUCTION TO DECIMALS:

Decimals are like fractions. They are parts of a whole. When you see a decimal point followed by some numbers, those numbers tell you what part of a whole number you have. Many times, decimals are part of a larger number, called a decimal mixed number. A decimal mixed number is one or more whole numbers plus a part of a whole number.

These activity sheets will show you how to add, subtract, multiply, or divide decimals and decimal mixed numbers. Work through all the activity sheets that have been circled below. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for decimals, ask to take the Decimals Review.

ACTIVITY SHEETS (Do those that are circled)

1.	Names of Decimal Places and Fractional Equivalents	1A	1B
2.	Adding Decimals to Decimals	2A	2B
3.	Adding Decimals and Whole Numbers	3A	3B
4.	Adding Decimals and Decimal Mixed Numbers	4A	4B
5.	Subtracting Decimals from Decimals	5A	5B
6.	Subtracting Decimals from Whole Numbers	6A	6B
7.	Subtracting Decimals and Decimal Mixed Numbers	7A	7B
8.	Multiplying Decimals Times Decimals	8A	8B
9.	Multiplying Decimals and Whole Numbers	9A	9B
10.	Multiplying Decimals and Mixed Numbers	10A	10B
11.	Dividing Decimals Into Decimals	11A	11B
12.	Performing Division with Decimals and Whole Numbers	12A	12B
13.	Dividing Mixed Decimals Into Each Other	13A	13B

Decimals
Activity Sheet 1A
Names of Decimal Places and
Fractional Equivalents

Name _____

Decimals are a lot like fractions. They are parts of a whole. First, we'll look at how to read decimal places. The table below shows what decimal places look like.

HOW DECIMALS ARE READ

Decimal	What It Means	Fraction
.1	One-Tenth	$\frac{1}{10}$
.01	One-Hundredth	$\frac{1}{100}$
.001	One-Thousandth	$\frac{1}{1,000}$
.0001	One Ten-Thousandth	$\frac{1}{10,000}$
.00001	One-Hundred-Thousandth	$\frac{1}{100,000}$
.000001	One-Millionth	$\frac{1}{1,000,000}$

You can see that every time you move the decimal point farther to the left, you make a number that is ten times smaller than the one above it. Decimals are ways of writing fractions that have multiples of ten in the denominator.

What if you have a number bigger than 1 in the numerator of your fraction? How do you write this fraction $(\frac{3}{10})$ as a decimal? This is easy. The number in the denominator tells you where to put the decimal point.

$\frac{3}{10}$ ⟶ . _ One decimal place (the tenths place).

The number in the numerator tells you what number to put after the decimal point.

$\frac{3}{10}$ ⟶ .3 Three pieces in the decimal tenths place.

Here is another example. How would you write this fraction as a decimal?

$\frac{197}{1000}$

Decimals
Activity Sheet 1A (Continued)
Names of Decimal Places and
Fractional Equivalents

Name _____

1. First, figure out how many decimal places you have.

$\frac{197}{1000}$ → .___ ___ ___ Three decimal places (for tenths, hundredths, and thousandths)

2. Now, put your numerator in the correct place. Move it as far to the right as you can.

$\frac{197}{1000}$ → .1 9 7 197 pieces out of a thousand.

Here is one last example. How would you write this fraction as a decimal?

$\frac{24}{10,000}$

1. First, figure your decimal places.

$\frac{24}{10,000}$ → .___ ___ ___ ___ Tenths, hundredths, thousandths, and ten thousandths places.

2. Now, put in your numerator. Move it as far to the right as possible.

$\frac{24}{10,000}$ → .0 0 2 4 24 out of 10,000 pieces.

Remember to put in 0's to fill the extra spaces.

You can turn this process around, too. You can turn decimals into fractions.

$.64 = \frac{64}{100}$ because you have 64 pieces and your decimal goes as far as the hundredths place.

$.0092 = \frac{92}{10,000}$ because you have 92 pieces and your decimal goes as far as the ten-thousandths place.

Decimals
Activity Sheet 1A (Continued)
Names of Decimal Places and
Fractional Equivalents

Name _____

Instructions: Change the fractions below into decimals, and the decimals below into fractions. Remember to use the table if you get confused.

1. .17
2. .23
3. .416
4. .1
5. $\frac{1}{10}$
6. $\frac{13}{100}$
7. $\frac{17}{1,000}$
8. $\frac{173}{1,000,000}$
9. $\frac{4381}{10,000}$
10. $\frac{965}{100,000}$
11. .7648
12. .0601
13. .000067
14. .00045
15. .09001
16. .040206
17. $\frac{258}{10,000}$
18. $\frac{3891}{100,000}$
19. $\frac{57}{100}$
20. $\frac{89}{10}$

Decimals
Activity Sheet 2A
Adding Decimals to Decimals

Name _____

Adding decimals is just like adding whole numbers except for one difference. You line up the decimal points instead of the numbers.

Example 1: Add .3 + .75 + .463 + .52 + .78476 + .7 + .4298.

Line up all the decimal points

```
 .3
 .75
 .463
 .52
 .78476
 .7
 .4298
-------
3.94756
```

Now you add, just like you add whole numbers. You can add zeros to fill in the right side if it helps you keep your place.

Example 2: Add .6 + .53 + .72 + .4.

```
 .60
 .53
 .72
 .40
-----
2.25
```

Add zeros if they help you keep your place.

Instructions: Add up these decimal numbers. Don't forget to line up the decimal points.

1. .2 + .4 + .6 =

2. .7 + .5 + .8 =

3. .4 + .9 + .11 =

Decimals
Activity Sheet 2A (Continued)
Adding Decimals to Decimals

Name _____

4. .54 + .32 + .77 =

5. .49 + .26 + .725 =

6. .698 + .735 + .71 =

7. .6542 + .3891 + .153 =

8. .0106 + .02203 + .3101 =

9. .2481 + .4128 + .4261 =

10. .006102 + .000028 + .2132 =

Decimals
Activity Sheet 3A
Adding Decimals and Whole Numbers Name _____

Adding decimals and whole numbers is like adding whole numbers except for two important differences; (1) you must line up the decimal points of the decimal numbers, and (2) you must put all whole numbers to the left of the line of decimal points. The answer's decimal point must also line up with the rest of the decimal points.

Example 1: Add 3 +.3 +.75+ 63 +.463+ 15

Line up whole numbers to the left of the line of decimal points.	3.00 .3 .75 63.00 .463 15.00 82.513	Line up decimal points. Now you can add these up as you would a column of whole numbers. You can add decimal points to the whole numbers and zeros to the right side to even it up if you want.

Example 2: Add 12+ .76 +.44 + 156 + .5

12.00 ← Add decimals and
.76 zeroes if it helps you.
.44
156.00 ←
.50
169.70

Instructions: Add up these decimal and whole numbers. Don't forget to line up the decimal points.

1. 93 + .46 + .71 + 32 + .21 =

2. .67 +.56 + .421+ 18 + 227 =

3. 28 + .17 + 93 + .444 + 8 =

Decimals
Activity Sheet 3A (Continued)
Adding Decimals and Whole Numbers

Name _____

4. .005 + 5 + 55 + .1005 + 5 + .0105 =

5. .71 + 68 + .438 + 7 + .53 + .1 =

6. 13 + .78 + 54 + .6207 + 19 =

7. 17 + .432 + 23 + .2 + .5187 =

8. 6 + 14 + 8 + .22 + .195 + 48 + .519 =

9. 63 + 78 + .12 + .348 + 12 + .181 =

10. 811 + 64 + .14701 + .518 + 76 + .58365 + 18707 + .2 =

Decimals
Activity Sheet 4A
Adding Decimals and Decimal
Mixed Numbers

Name _____

Adding decimals and mixed numbers is like adding whole numbers except for one difference: You line up the decimal points.

Example 1: Add 3.3 + .75 + .463 + 72.52 + 6.78476 + .7 + 1.4298 =

```
  3.3
   .75
   .463
 72.52
  6.78476
   .7
  1.4298
 85.94756
```

Now you add these up as if they were a column of whole numbers. You can add zeros to even up the right side of the numbers if you wish.

Example 2: Add 2.6 + 17.53 + .72 + .4 =

```
 2.60   <-- Add zeros if you wish.
17.53
  .72
  .40   <--
21.25
```

Instructions: Add up these decimal and mixed numbers. Do not forget to line up the decimal points.

1. 7.46 + 4.32 + .57 + .93 =

2. 53.71 + 122.46 + 1.7632 =

3. 12.34 + 5.678 + 90.1234 =

4. .321 + .0987 + 65.43 + .21 =

Name _____

5. $16.17 + .251 + 1.738 + .005 =$

6. $11.00003 + 2.110113 + 523.10205 =$

7. $648.915 + .76203 + 13.7854 =$

8. $.5417 + .432 + .71 + 23.1 + 14.22 =$

9. $6.148 + 22.110195 + 7.2 + 5.7 + .3 =$

10. $438.11064 + 1.4 + 7.4005 + 61.7482 + 5.1286 + .12 + .7658 + 1.7327 =$

Decimals
Activity Sheet 5A
Subtracting Decimals from Decimals

Name _____

Subtracting decimals from decimals is just like subtracting whole numbers from each other except for one difference: you must line up the decimal points of all of the decimal numbers.

Examples: .72 - .46 =

1.

$$\begin{array}{r} .72 \\ -.46 \\ \hline .26 \end{array}$$

Notice that you borrow the same way as you do in regular subtraction.

2. .89 - .46 =

$$\begin{array}{r} .89 \\ -.46 \\ \hline .43 \end{array}$$

3. .17 - .0516 =

$$\begin{array}{r} .1700 \\ -.0516 \\ \hline .1184 \end{array}$$

In subtraction it is a good idea to put in zeros to even up the right side. It helps you to subtract.

4. .154 - .03 =

$$\begin{array}{r} .154 \\ -.030 \\ \hline .124 \end{array}$$

Instructions: Subtract these decimal number problems. Remember to line up the decimal points and borrow where necessary.

1. .6 - .2 =

2. .7 - .5 =

Decimals
Activity Sheet 5A (Continued)
Subtracting Decimals from Decimals

Name _____

3. .11 - .09 =

4. .77 - .54 =

5. .725 - .49 =

6. .71 - .698 =

7. .0106 - .00231 =

8. .6502 - .39754 =

9. .003101 - .001919 =

10. .7321 - .488 =

Decimals
Activity Sheet 6A
Subtracting Decimals from Whole Numbers Name _____

Subtracting decimals from whole numbers is like subtracting whole numbers from each other except for two differences. First, you must line up the decimal points of the decimal numbers (including the answer). Second, you must add zeros after the decimal point of the whole number to even it up with the decimal you are subtracting from it.

Examples:

1. 7 - .54 =

$$\begin{array}{r} 7.00 \\ -\ .54 \\ \hline 6.46 \end{array}$$

← Notice the zeros and decimal point added to the whole number so that you can borrow and subtract.

2. 17 - .397 =

$$\begin{array}{r} 17.000 \\ -\ .397 \\ \hline 16.603 \end{array}$$

Instructions: Subtract these decimals and whole numbers. Remember to line up the decimal points. Put decimal points and zeros on the whole numbers. Remember to borrow if necessary.

1. 7 - .32 =

2. 2 - .53 =

3. 4 - .67 =

4. 5 - .23 =

Decimals
Activity Sheet 6A (Continued)
Subtracting Decimals from Whole Numbers

Name _____

5. 4 - .58 =

6. 65 - .715 =

7. 95 - .6817 =

8. 14 - .00731 =

9. 175 - .1789 =

10. 38 - .471 =

11. 13 - .487 =

12. 99 - .9876 =

13. 49 - .001011 =

14. 1 - .99999 =

15. 15 - .2103 =

Decimals
Activity Sheet 7A
Subtracting Decimals and Decimal Mixed Numbers

Name _____

Subtracting decimal and decimal mixed numbers is like subtracting whole numbers from each other with one difference: you must line up the decimal points of all of the decimal numbers. This rule includes the answer.

Examples:

1. 35.72 - .46 =

$$\begin{array}{r} 35.72 \\ -\ .46 \\ \hline 35.26 \end{array}$$

Notice that you borrow the same way as you do in regular subtraction.

2. 76.21 - 7.98 =

$$\begin{array}{r} 76.21 \\ -\ 7.98 \\ \hline 68.23 \end{array}$$

3. 4.18 - .2756 =

$$\begin{array}{r} 4.1800 \\ -\ .2756 \\ \hline 3.9044 \end{array}$$

In subtraction it is a good idea to put in zeros to even up the right and to have something to subtract from.

Instructions: Subtract these decimal and mixed numbers. Remember to line up the decimal points and borrow where necessary.

1. 7.46 - .32 =

2. 1.76 - .53 =

3. 4.23 - 2.67 =

Decimals
Activity Sheet 7A (Continued)
Subtracting Decimals and Decimal Mixed Numbers

Name _____

4. 5.43 - .23 =

5. 4.11 - 1.52 =

6. 65.4376 - 8.7155 =

7. 95.4 - .6817 =

8. 14.06 - .00731 =

9. 175.1 - 166.1789 =

10. 38.54 - 6.471 =

Decimals
Activity Sheet 8A
Multiplying Decimals Times Decimals Name _____

In this lesson you will learn how to multiply decimals times decimals and how to find the place where the decimal point goes in the answer.

Multiplying decimals is just like multiplying whole numbers with one difference: you must find the correct spot for the decimal point in the answer. Finding that spot is very simple. You count the numbers you are multiplying to see how many total digits they have to the right of their decimal points. When you have the total of digits, you go to the answer and count that same number of digits from right to left. Put the decimal point just to the left of the last digit you counted in the answer.

Examples:

1.
```
   .2      1 digit to the right of the decimal point
  x.2    + 1 digit to the right of the decimal point
  ---
  .04     = 2 digits to the right of the decimal point
```

2.
```
   .246      3 digits to the right of the decimal point
  x .41    + 2 digits to the right of the decimal point
  -----
   246
  984
  -----
 .10086     = 5 digits to the right of the decimal point
```

3.
```
   .2815      4 digits to the right of the decimal point
  x .436    + 3 digits to the right of the decimal point
  ------
   16890
    8445
   11260
  -------
 .1227340    = 7 digits to the right of the decimal point
```

Instructions: Multiply these decimals together. Don't forget to count the digits of the multipliers so you can put the answer's decimal point in the correct place. Be sure to show your work.

1.
```
  .1
 x.2
```

2.
```
  .2
 x.3
```

3.
```
  .5
 x.7
```

4.
```
  .4
 x.9
```

Decimals
Activity Sheet 8A (Continued)
Multiplying Decimals Times Decimals

Name _____

5. .8
x.6

6. .12
x .2

7. .17
x .3

8. .25
x .7

9. .39
x .4

10. .68
x .5

11. .47
x .9

12. .99
x .3

13. .111
x .4

14. .63
x.45

15. .248
x .65

16. .84
x.66

17. ..421
x.753

18. .8715
x .213

19. .7199
x.4444

20. .371
x.402

Decimals
Activity Sheet 9A
Multiplying Decimals and Whole Numbers Name _____

In this lesson you will learn to multiply decimals and whole numbers together.

Multiplying decimals and whole numbers is like multiplying whole numbers with one difference. You must put the decimal point in the correct place in the answer. This is easy to do. Count from right to left to find the number of digits to the right of the decimal points in the problem. Then, when you have the answer, you count from right to left, that same number of digits. Put the decimal point in the answer just to the left of the last digit you counted.

Example:

1.
$$\begin{array}{r} 2 \\ \times .2 \\ \hline .4 \end{array}$$
no digits to the right
+ 1 digit to the right
= one digit to the right

2.
$$\begin{array}{r} 22 \\ \times .14 \\ \hline 88 \\ 22 \\ \hline 3.08 \end{array}$$
no digits to the right
+ 2 digits to the right of the decimal
= 2 digits to the right of the decimal

Instructions: Multiply these whole numbers and decimals together. Remember to count the digits to the right of the decimal points to get the number of decimal places you need in your answer.

1. $\begin{array}{r} 1 \\ \times .1 \\ \hline \end{array}$

2. $\begin{array}{r} .5 \\ \times 5 \\ \hline \end{array}$

3. $\begin{array}{r} 7 \\ \times .3 \\ \hline \end{array}$

4. $\begin{array}{r} .4 \\ \times 6 \\ \hline \end{array}$

5. $\begin{array}{r} 9 \\ \times .8 \\ \hline \end{array}$

6. $\begin{array}{r} .3 \\ \times 8 \\ \hline \end{array}$

Multiplying Decimals and Whole Numbers

Name _____

7. $\begin{array}{r} 9 \\ \times .5 \\ \hline \end{array}$

8. $\begin{array}{r} 17 \\ \times .4 \\ \hline \end{array}$

9. $\begin{array}{r} 15 \\ \times .7 \\ \hline \end{array}$

10. $\begin{array}{r} 18 \\ \times .7 \\ \hline \end{array}$

11. $\begin{array}{r} .18 \\ \times \ 7 \\ \hline \end{array}$

12. $\begin{array}{r} 15 \\ \times .5 \\ \hline \end{array}$

13. $\begin{array}{r} 45 \\ \times .16 \\ \hline \end{array}$

14. $\begin{array}{r} 52 \\ \times .33 \\ \hline \end{array}$

15. $\begin{array}{r} 99 \\ \times .99 \\ \hline \end{array}$

16. $\begin{array}{r} 114 \\ \times .23 \\ \hline \end{array}$

17. $\begin{array}{r} .175 \\ \times \ 41 \\ \hline \end{array}$

18. $\begin{array}{r} .813 \\ \times 929 \\ \hline \end{array}$

19. $\begin{array}{r} .479 \\ \times 252 \\ \hline \end{array}$

20. $\begin{array}{r} .643 \\ \times 294 \\ \hline \end{array}$

Decimals
Activity Sheet 10A
Multiplying Decimals and Mixed Numbers Name _____

In this lesson you will learn to multiply decimals and mixed numbers together.

Multiplying decimals and mixed numbers is like multiplying whole numbers with one difference. You must correctly place the decimal point in the answer. This is easily done by counting up all the places to the right of all the decimal points in the problem. Then, in the answer, you count from right to left. When you reach the total number of decimal places, put the decimal point to the left of the last digit you counted.

Examples:

1.
$$\begin{array}{r} 2.2 \\ \times\ .3 \\ \hline .66 \end{array}$$
1 decimal place
+ 1 decimal place
= 2 decimal places

2.
$$\begin{array}{r} 82.56 \\ \times\ .97 \\ \hline 57792 \\ 74304 \\ \hline 80.0832 \end{array}$$
2 decimal places
+ 2 decimal places
= 4 decimal places

Instructions: Multiply these decimals and mixed numbers. Remember to count the digits so you can put the decimal point in the correct place in the answer. Show your work on a scratch paper.

1. $\begin{array}{r} 1.1 \\ \times\ .1 \end{array}$

2. $\begin{array}{r} 2.3 \\ \times\ .5 \end{array}$

3. $\begin{array}{r} 4.7 \\ \times\ .8 \end{array}$

4. $\begin{array}{r} 6.5 \\ \times\ .8 \end{array}$

5. $\begin{array}{r} 7.7 \\ \times\ .7 \end{array}$

6. $\begin{array}{r} 14.3 \\ \times\ .4 \end{array}$

Name _____

7. $6.45 \times .7$

8. $6.7 \times .48$

9. $33.5 \times .35$

10. $17.4 \times .07$

11. $3.01 \times .25$

12. $8.50 \times .66$

13. $83.4 \times .49$

14. $74.22 \times .22$

15. $86.81 \times .76$

16. $58.31 \times .29$

17. $48.132 \times .13$

18. $8.254 \times .773$

19. $6.422 \times .578$

20. $1.42 \times .64$

Decimals
Activity Sheet 11A
Dividing Decimals into Decimals

Name _____

In this lesson you will learn to divide decimals into decimals.

Dividing decimals into decimals is just like dividing whole numbers with one difference. You must find where the decimal point goes in the answer.

To figure out where the decimal point goes in the answer, do these steps:

Example: (1) .44 ÷ .22 =

.22/.44 ←	Change the problem to this form.
×22./.44	Move the decimal point of the first number to the right as far as it will go.
22./44.	Move the decimal point of the second number the same number of places as you did for the first number.
2. / 22./44.	On the top of the line, put in a new decimal point just above the decimal point that is below the line.
2. / 22./44. / 44. / 0.	Now, just divide. In this example, the answer is 2.

Here is another example:

(2) .784 ÷ .32 =

.32/.784 ←	Change the form.
×32./.784	Move the decimal point of the first number as far to the right as it will go.
32./×78.4	Move the decimal point of the second number the same number of spaces to the right.
. / 32./78.4	Put in the new decimal point on top of the line, just above the other decimal point.
2.45 / 32./78.40 ← / 64. / 14.4 / 12.8 / 1.60 / 1.60 / 0	Divide. You may have to add zeros to this number so you can divide all the way.

Activity Sheet 11A

Dividing Decimals into Decimals

Name _____

Instructions: Do these division problems. Remember to move the decimal points over. Round off your answers to three places where necessary. Keep your scratch paper to show to the peer tutor or the teacher.

1. .2 ÷ .4 =
2. .7 ÷ .7 =
3. .9 ÷ .3 =
4. .12 ÷ .4 =
5. .72 ÷ .12 =
6. .63 ÷ .7 =
7. .7 ÷ .63 =
8. .45 ÷ .6 =
9. .5 ÷ .501 =
10. .016 ÷ .08 =
11. .11 ÷ .213 =
12. .78 ÷ .369 =
13. .94 ÷ .63 =
14. .999 ÷ .666 =
15. .462 ÷ .215 =
16. .148 ÷ .723 =
17. .543 ÷ .201 =
18. .42 ÷ .7096 =
19. .1058 ÷ .214 =
20. .616 ÷ .161 =

Decimals
Activity Sheet 12A
Performing Division with Decimals and Whole Numbers

Name _____

In this lesson you will learn to divide decimals into whole numbers and whole numbers into decimals.

Dividing decimals and whole numbers is just like dividing whole numbers except for one difference. You must find where the decimal point goes in the answer. This is easy if you remember that every whole number has an imaginary decimal point. You can put as many 0's after a whole number as you want. It doesn't change the whole number.

Here are some ways to write whole numbers:

21 14.0 28.0000 762.0

Now, it will be easy to find where the decimal point goes when you divide decimals and whole numbers. Look at this problem:

.22 ÷ 2 =

Remember the steps from Activity Sheet 11A.

.22 ÷ 2 =

$2.\overline{).22}$ ← Change the form. Put a decimal point after the whole number so it is easier to work with.

$2.\overline{).22}$ Move the decimals over if they need to be. Notice that, since your first number is a whole number, the decimals don't have to be moved over.

$2.\overline{)\overset{.}{.}22}$ Put in a decimal point above the line.

$$\begin{array}{r} .11 \\ 2.\overline{)\,.22} \\ \underline{2} \\ 02 \\ \underline{2} \\ 0 \end{array}$$ Divide

Now, try this problem: 44 ÷ .22 =

$.22\overline{)44}$ Change the form

$.22\overline{)44.000}$ Put a decimal point and some zeros after the whole number, so you have room to work.

$22.\overline{)44.00.0}$ Move both of the decimal points to the right like you did in Activity Sheet 11A.

Name _____

$22./\overline{4400.0}$ Next, put the decimal point for the answer directly above the decimal point for the number being divided into.

$22./\overline{4400.0}$ Now divide.

$$\begin{array}{r} 200. \\ 22./\overline{4400.0} \\ \underline{44} \\ 00 \end{array}$$

And the answer is 200.

Instructions: Do these division problems. Move the decimals as described above. Round off when necessary. Show your work on a piece of scratch paper.

1. .22 ÷ 2 =
2. 8 ÷ .2 =
3. 6 ÷ .3 =
4. 10 ÷ .5 =
5. 12 ÷ .4 =
6. 66 ÷ .22 =
7. 84 ÷ .12 =
8. .45 ÷ 9 =
9. .37 ÷ 4 =
10. 18 ÷ .7 =
11. 115 ÷ .25 =
12. 169 ÷ .13 =
13. 276 ÷ .45 =
14. 319 ÷ .86 =
15. .415 ÷ 18 =
16. .654 ÷ 75 =
17. 539 ÷ .37 =
18. 405 ÷ .67 =
19. 396 ÷ .20 =
20. 9030 ÷ .547 =

Decimals
Activity Sheet 13A
Dividing Mixed Decimals Into Each Other Name _____

In this lesson you will learn to divide mixed decimals into mixed decimals.

Dividing mixed decimals into mixed decimals is just like dividing whole numbers into each other with one difference. You must find where the decimal point goes in the answer. You can do this like you did in Activity Sheet 11A.

Example: $4.4 \div 2.2 =$

$2.2\overline{)4.4}$ ← Change the form of the problem.

$2\overline{)2.4.}$ Move the first decimal point as far to the right as it will go.

$22.\overline{)44.}$ Move the second decimal point to the right the same number of spaces.

$22.\overline{)44.}$ Put the decimal point for the answer directly above the decimal point that is below the line.

$$\begin{array}{r} 2. \\ 22.\overline{)44.} \\ \underline{44.} \\ 0 \end{array}$$ Divide.

Instructions: Do these division problems. Remember to move the decimal points. Round off your answers where necessary. Show your work on a scratch paper.

1. $2.2 \div 4.4 =$
2. $1.2 \div 3.4 =$
3. $9.1 \div 3.7 =$
4. $1.5 \div 1.3 =$
5. $6.3 \div 8.9 =$
6. $4.5 \div 6.1 =$
7. $7.8 \div 5.3 =$
8. $14.4 \div 1.2 =$
9. $2.25 \div 1.5 =$
10. $6.25 \div 2.5 =$
11. $74.11 \div 2.13 =$
12. $5.43 \div 2.1 =$

Name _____

13. $1.48 \div 7.23 =$

14. $4.2 \div 90.76 =$

15. $7.4 \div 3.67 =$

16. $4.01 \div 2.11 =$

17. $6.331 \div 63.1 =$

18. $24.5 \div 62.5 =$

19. $61.6 \div 13.2 =$

20. $10.01 \div 1.01 =$

CHECK SHEET

Decimals
Activity Sheet 1A
Names of Decimal Places and
Fractional Equivalents

1. $\frac{17}{100}$

2. $\frac{23}{100}$

3. $\frac{416}{1000}$

4. $\frac{1}{10}$

5. .1

6. .13

7. .017

8. .000173

9. .4381

10. .00965

11. $\frac{7648}{10,000}$

12. $\frac{601}{10,000}$

13. $\frac{67}{1,000,000}$

14. $\frac{45}{100,000}$

15. $\frac{9001}{100,000}$

16. $\frac{40206}{1,000,000}$

17. .0258

18. .03891

19. .57

20. 8.9

CHECK SHEET
Decimals
Activity Sheet 2A
Adding Decimals to Decimals

1. 1.2

2. 2

3. 1.41

4. 1.63

5. 1.475

6. 2.143

7. 1.1963

8. .34273

9. 1.087

10. .21933

CHECK SHEET

Decimals
Activity Sheet 3A
Adding Decimals and Whole Numbers

1. 126.38

2. 246.651

3. 129.614

4. 65.116

5. 76.778

6. 87.4007

7. 41.1507

8. 76.934

9. 153.649

10. 19659.44866

CHECK SHEET

Decimals
Activity Sheet 4A
Adding Decimals and Decimal
Mixed Numbers

1. 13.28

2. 177.9332

3. 108.1414

4. 66.0597

5. 18.164

6. 536.21219

7. 663.46243

8. 39.0037

9. 41.458195

10. 516.40644

CHECK SHEET

Decimals
Activity Sheet 5A
Subtracting Decimals from Decimals

1. .4

2. .2

3. .02

4. .23

5. .235

6. .012

7. .00829

8. .25266

9. .001182

10. .2441

CHECK SHEET
Decimals
Activity Sheet 6A
Subtracting Decimals from Whole Numbers

1. 6.68

2. 1.47

3. 3.33

4. 4.77

5. 3.42

6. 64.285

7. 94.3183

8. 13.99269

9. 174.8211

10. 37.529

11. 12.513

12. 98.0124

13. 48.998989

14. .00001

15. 14.7897

CHECK SHEET
Decimals
Activity Sheet 7A
Subtracting Decimals and Decimal Mixed Numbers

1. 7.14

2. 1.23

3. 1.56

4. 5.2

5. 2.59

6. 56.7221

7. 94.7183

8. 14.05269

9. 8.9211

10. 32.069

CHECK SHEET
Decimals
Activity Sheet 8A
Multiplying Decimals Times Decimals

1.	.02	11.	.423
2.	.06	12.	.297
3.	.35	13.	.0444
4.	.36	14.	.2835
5.	.48	15.	.16120
6.	.024	16.	.5544
7.	.051	17.	.317013
8.	.175	18.	.1856295
9.	.156	19.	.31992356
10.	.340	20.	.149142

CHECK SHEET

Decimals
Activity Sheet 9A
Multiplying Decimals and Whole Numbers

1. .1
2. 2.5
3. 2.1
4. 2.4
5. 7.2
6. 2.4
7. 4.5
8. 6.8
9. 10.5
10. 12.6
11. 1.26
12. 7.5
13. 7.20
14. 17.16
15. 98.01
16. 26.22
17. 7.175
18. 755.277
19. 120.708
20. 189.042

CHECK SHEET
Decimals
Activity Sheet 10A
Multiplying Decimals and Mixed Numbers

1.	.11	11.	.7525
2.	1.15	12.	5.6100
3.	3.76	13.	40.866
4.	5.2	14.	16.3284
5.	5.39	15.	65.9756
6.	5.72	16.	16.9099
7.	4.515	17.	6.25716
8.	3.216	18.	6.380342
9.	11.725	19.	3.711916
10.	1.218	20.	.9088

CHECK SHEET
Decimals
Activity Sheet 11A
Dividing Decimals into Decimals

1.	.50	11.	.516
2.	1.	12.	2.114
3.	3.	13.	1.492
4.	.30	14.	1.50
5.	6.0	15.	2.149
6.	.90	16.	.205
7.	1.111	17.	2.701
8.	.75	18.	.592
9.	.998	19.	.494
10.	.20	20.	3.826

CHECK SHEET

Decimals

Activity Sheet 12A

Performing Division with Decimals and Whole Numbers

1.	.11	11.	460.
2.	40.	12.	1300.
3.	20.	13.	613.333
4.	20.	14.	370.930
5.	30.	15.	.023
6.	300.	16.	.009
7.	700.	17.	1456.757
8.	.050	18.	604.478
9.	.093	19.	1980.
10.	25.714	20.	16,508.226

CHECK SHEET

Decimals
Activity Sheet 13A
Dividing Mixed Decimals Into Each Other

1.	.50	11.	34.793
2.	.353	12.	2.586
3.	2.459	13.	.205
4.	1.154	14.	.046
5.	.708	15.	2.016
6.	.738	16.	1.900
7.	1.472	17.	.100
8.	12	18.	.392
9.	1.5	19.	4.667
10.	2.5	20.	9.911

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Name _____

MODULE PREVIEW/REVIEW

PERCENTS

Instructions: Do the problems below. Choose the correct answer for each problem. Mark the answer on the answer sheet.

1. $\frac{23}{100}$ = (a) 100% (c) 46%
(b) 23% (d) 32%

2. $\frac{19}{100}$ = (a) 100% (c) 19%
(b) 38% (d) 91%

3. $\frac{3}{20}$ = (a) 3% (c) 12%
(b) 20% (d) 15%

4. $\frac{1}{8}$ = (a) 12.5% (c) 8%
(b) 1.8 % (d) 22.1%

5. $\frac{1}{6}$ = (a) 6.1% (c) 6%
(b) 16.67% (d) 32.6%

6. 45.8% = (a) .458 (c) 4.58
(b) 45.8 (d) .0458

7. .3542 = (a) .3542% (c) 354.2%
(b) 3.542% (d) 35.42%

8. 20% of 80 = (a) 20 (c) 8.0
(b) 16 (d) 10

9. 43% of 52.9 = (a) 43.529 (c) 20.842
(b) 52.943 (d) 22.747

10. 30.2% + 5% + 7.9% = (a) 38.6% (c) 114.2%
(b) 158.9% (d) 43.1%

Name _____

11. 123.8% - 96.9% =

(a) 26.9%
(b) 96.9%
(c) 220.7%
(d) 269%

12. 13% x 22% =

(a) 2.86%
(b) 1.69%
(c) 35.5%
(d) 286%

13. 15% x 6.5% =

(a) 97.5%
(b) 0.975%
(c) 9.75%
(d) 2.308%

14. 18% ÷ 3% =

(a) 21%
(b) 15%
(c) 6%
(d) 54%

15. 51.2% ÷ 17% =

(a) 34.2%
(b) 33.20%
(c) 87.04%
(d) 3.012%

Answer Sheet
Module Preview/Review
Percents

Name _____

	a	b	c	d
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐
11.	☐	☐	☐	☐
12.	☐	☐	☐	☐
13.	☐	☐	☐	☐
14.	☐	☐	☐	☐
15.	☐	☐	☐	☐

ANSWER KEY/DIAGNOSTIC
Module Preview/Review
Percents

Name _____

	a	b	c	d	IF WRONG, ASSIGN:
1.	☐	■	☐	☐	1
2.	☐	☐	■	☐	1
3.	☐	☐	☐	■	1,2
4.	■	☐	☐	☐	2
5.	☐	■	☐	☐	2
6.	■	☐	☐	☐	3
7.	☐	☐	☐	■	3
8.	☐	■	☐	☐	4
9.	☐	☐	☐	■	4
10.	☐	☐	☐	■	5
11.	■	☐	☐	☐	5
12.	■	☐	☐	☐	6
13.	☐	■	☐	☐	6
14.	☐	☐	■	☐	7
15.	☐	☐	☐	■	7

Name _____

MODULE RECORD SHEET

PERCENTS

OBJECTIVE: Use addition, subtraction, multiplication, or division to find the correct answer for any problem with percents. Know the relationship between fractions and percents. Convert percents to decimals and decimals to percents. Find percents of numbers.

SAMPLE TEST ITEMS:

1. $\frac{5}{20}$ = a) 5% c) 25% b) 20% d) 4%

a	b	c	d
☐	☐	■	☐

2. 15% of 60 = a) 15 c) 45 b) 4 d) 9

a	b	c	d
☐	☐	☐	■

INTRODUCTION TO PERCENTS:

Percents are like fractions. They are parts of a whole. The whole is always equal to 100 parts in fractions. If you wrote a percent as a fraction, the denominator would always be 100. So 1% is $\frac{1}{100}$, and 100% is $\frac{100}{100}$, or 1. You can also have percents greater than 100, such as 125%. This represents 1 whole plus $\frac{25}{100}$.

These activity sheets will teach you about percents. Work through all the activity sheets that have been circled below. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for percents, ask to take the Percents Review.

ACTIVITY SHEETS (Do those that are circled)

1.	What Are Percents	1A	1B
2.	Percents and Fractions	2A	2B
3.	Changing Percents to Decimals, and Decimals to Percents	3A	3B
4.	Finding Percents of Numbers	4A	4B
5.	Adding or Subtracting Percents	5A	5B
6.	Multiplying Percents	6A	6B
7.	Dividing Percents	7A	7B

Percents
Activity Sheet 1A
What Are Percents?

Name _____

Percents are like fractions. They are parts of a whole. In percents, the whole is always equal to 100 parts. If you wrote a percent as a fraction, the denominator would always be 100. Here are some percents and fractions which mean the same thing.

$1\% = \frac{1}{100}$

$10\% = \frac{10}{100} \longrightarrow = \frac{1}{10}$

$23\% = \frac{23}{100}$

$88\% = \frac{88}{100} \longrightarrow = \frac{22}{25} \leftarrow$

Notice that you can reduce some of these fractions. But you can't reduce percents. They are always parts of 100.

The percent is the same as the numerator of the fraction. Let's say you ordered 100 bars of soap from supply. When you went down to pick them up, you got all 100 bars. You got $\frac{100}{100}$ bars of soap, or 100% of the bars.

Let's suppose that you decide to give half of your C-ration to a stray dog. You give the dog $\frac{1}{2}$ of the C-ration. $\frac{1}{2}$ is the same as $\frac{50}{100}$ (remember your work on fractions?). $\frac{50}{100}$ is the same as 50%. So you give the dog 50% of your C-ration.

Instructions: Look at each of these fractions. Decide how you would write them as percents. Then choose the correct answer. Fill in the space for the correct answer on your answer sheet. You may have to change some fractions so the denominator equals 100.

Examples:

1. $\frac{23}{100}$ = (a) 100% (c) 46% (b) 23% (d) 32%

a	b	c	d
☐	■	☐	☐

2. $\frac{9}{25}$ = (a) 27% (c) 9% (b) 25% (d) 36%

a	b	c	d
☐	☐	☐	■

Notice that in this problem, the denominator does not equal 100. So you have to change the fraction first.

$$\frac{9}{25} = \frac{9 \times 4}{25 \times 4} = \frac{36}{100}$$

Percents
Activity Sheet 1A
What Are Percents?

Name _____

1. $\frac{10}{100}$ = (a) 1% (c) 10% (b) 1000% (d) 100%

2. $\frac{18}{100}$ = (a) 36% (c) 100% (b) 18% (d) 81%

3. $\frac{84}{100}$ = (a) 84% (c) 100% (b) 48% (d) 8.4%

4. $\frac{33}{100}$ = (a) 13% (c) 67% (b) 100% (d) 33%

5. $\frac{15}{50}$ = (a) 15% (c) 100% (b) 50% (d) 30%

6. $\frac{28}{50}$ = (a) 50% (c) 28% (b) 56% (d) 14%

7. $\frac{19}{25}$ = (a) 76% (c) 38% (b) 19% (d) 25%

8. $\frac{13}{20}$ = (a) 52% (c) 65% (b) 13% (d) 26%

9. $\frac{7}{10}$ = (a) 10% (c) 70% (b) 7% (d) 21%

10. $\frac{23}{25}$ = (a) 46% (c) 23% (b) 92% (d) 69%

Answer Sheet
Percents
Activity Sheet 1A
What Are Percents:

Name _____

	a	b	c	d
1.	☐	☐	☐	☐
2.	☐	☐	☐	☐
3.	☐	☐	☐	☐
4.	☐	☐	☐	☐
5.	☐	☐	☐	☐
6.	☐	☐	☐	☐
7.	☐	☐	☐	☐
8.	☐	☐	☐	☐
9.	☐	☐	☐	☐
10.	☐	☐	☐	☐

Percents
Activity Sheet 2A
Percents and Fractions

Name _____

Percents are like fractions with a denominator of 100. But there are many common fractions that have a denominator that is not 100. In this lesson, you will learn some percents that mean the same as certain fractions.

Here are some percents and fractions that are easy to learn. These fractions have denominators that can be divided evenly into 100. So you can turn them into percents very easily.

$\frac{1}{50} = \frac{2}{100} = 2\%$, so $\frac{13}{50} = 13 \times 2\% = 26\%$

$\frac{1}{25} = \frac{4}{100} = 4\%$, so $\frac{17}{25} = 17 \times 4\% = 68\%$

$\frac{1}{20} = \frac{5}{100} = 5\%$, so $\frac{19}{20} = 19 \times 5\% = 95\%$

$\frac{1}{10} = \frac{10}{100} = 10\%$, so $\frac{3}{10} = 3 \times 10\% = 30\%$

$\frac{1}{5} = \frac{20}{100} = 20\%$, so $\frac{4}{5} = 4 \times 20\% = 80\%$

$\frac{1}{4} = \frac{25}{100} = 25\%$, so $\frac{3}{4} = 3 \times 25\% = 75\%$

$\frac{1}{2} = \frac{50}{100} = 50\%$, so $\frac{2}{2} = 2 \times 50\% = 100\%$

You can see that the way to turn these fractions into percents is:

(1) See how many times the denominator goes into 100. For example, in the fraction $\frac{13}{50}$, you can see that 50 goes into 100, 2 times.

(2) Multiply your answer times the numerator. For the fraction $\frac{13}{50}$, you would multiply 13 x 2.

(3) The answer is your percent. 13 x 2 = 26, or 26%. So $\frac{13}{50} = 26\%$.

Name _____

Many fractions are easy to do because the denominators divide evenly into 100. But some common fractions do not divide evenly into 100. Sometimes it is easiest just to memorize the percents for these fractions.

$\frac{1}{8}$ = 12.5%, so $\frac{3}{8}$ = 3 x 12.5% = 37.5%

$\frac{1}{6}$ = 16.67%, so $\frac{5}{6}$ = 5 x 16.67% = 83.35%

$\frac{1}{3}$ = 33.33%, so $\frac{2}{3}$ = 2 x 33.33% = 66.66%

Instructions: Figure out the percent for each of these fractions. Remember to see if the denominator will divide evenly into 100. If it will not, look at the table above to help you figure out the percent. Try to memorize the table.

1. $\frac{3}{10}$ =
2. $\frac{19}{50}$ =
3. $\frac{7}{25}$ =
4. $\frac{11}{20}$ =
5. $\frac{2}{5}$ =
6. $\frac{1}{4}$ =
7. $\frac{1}{2}$ =
8. $\frac{5}{8}$ =
9. $\frac{1}{6}$ =
10. $\frac{2}{3}$ =
11. $\frac{7}{10}$ =
12. $\frac{23}{50}$ =
13. $\frac{14}{25}$ =
14. $\frac{13}{20}$ =
15. $\frac{3}{5}$ =
16. $\frac{3}{4}$ =
17. $\frac{7}{8}$ =
18. $\frac{3}{6}$ =
19. $\frac{1}{3}$ =
20. $\frac{5}{6}$ =

Percents
Activity Sheet 3A
Changing Percents to Decimals, and
Decimals to Percents

Name _____

In this activity you will learn to change percents to decimals, and decimals to percents.

Changing them back and forth is a very easy job.

	Example 1	Example 2	
1.	38%	72.4%	First you remove the percent sign (%).
2.	.38	.72,4	Then you move the decimal point to the left two digits. If there isn't a decimal point, put a new one in before the second digit from the end.
3.	.38	.724	This decimal (.38) is equal to 38% and .724 is equal to 72.4%.

To turn a decimal into a percent, you do the same process, only backward.

1.	.38.	.72.4	First, you move the decimal point to the right two digits. If your decimal point is at the end now, you can drop it.
2.	38%	72.4%	Then you put a percent sign on the right side of your number.
3.	38%	72.4%	This percent (38%) is equal to .38 and 72.4% is equal to .724.

Instructions: Change the percents into decimals and the decimals into percents.

1. 20%
2. 12%
3. 70.9%
4. 5.3%
5. 25%
6. 45.8%
7. 22.326%
8. .30

Percents
Activity Sheet 3A Continued
Changing Percents to Decimals, and
Decimals to Percents

Name _____

9. .09

10. .354

11. .05

12. .6592

13. .75

14. .368

15. 95.8%

16. .201

17. 14%

18. .1722

19. 100%

20. .0027

Percents
Activity Sheet 4A
Finding Percents of Numbers

Name _____

In this activity you will learn to find the percentage of a number. To find the percentage of a number, you do three steps:

1. Write down the number, and the percent you want. Write it down as a multiplication problem.
2. Change the percent to a decimal.
3. Multiply the decimal times your first number.

Here is how the problem works:

Find 20% of 80.

1. 80 x 20% = Write the number and the percent as a multiplication problem.
2. 80 x .20 = Change the percent to a decimal. If you don't know how, do Activity Sheet 2A.
3. 80 x .20 = 16 Solve the problem.

```
  80
x.20
  00
 160
16.00
```

Sometimes it is easier if you put the problem in another form.

Here is another example:

Find 43% of 52.9.

1. 52.9 x 43% = Write the multiplication problem.
2. 52.9 x .43 = Change the percent to a decimal.
3. 52.9 x .43 = 22.747 Solve the problem

```
 52.9
x .43
 1587
2116
22.747
```

Now it's your turn to do some problems.

Percents
Activity Sheet 4A Continued
Finding Percents of Numbers

Name _____

Instructions: Do these percentage problems. Be sure to write the problem, change percent to a decimal, and multiply. Use scratch paper.

1. Find 10% of 100.
2. Find 35% of 100.
3. Find 50% of 200.
4. Find 50% of 350.
5. Find 45% of 88.
6. Find 60% of 735.
7. Find 40% of 692.
8. Find 22% of 911.
9. Find 96% of 2.3.
10. Find 42% of 88.5.
11. Find 3% of 6.25.
12. Find 14% of 16.43.
13. Find 72% of 51.88.
14. Find 39% of 75.21.
15. Find 86% of 14.12.
16. Find 99% of 82.33.
17. Find 71% of 261.52.
18. Find 27% of 357.66.
19. Find 57% of 18.94.
20. Find 81% of 93.23.

Percents
Activity Sheet 5A
Adding or Subtracting Percents

Name _____

When you add or subtract percents, it is just like doing it with whole numbers or decimals. Just remember to put a percent sign after the answer.

Instructions: Do these problems. Remember to put percent signs on the answers. Remember that percents can add up to more than 100%.

Example: 30.2% + 5% + 7.9% = 43.1%

1.
$$\begin{array}{r} 2\% \\ +\ 12\% \\ +\ 50\% \\ \hline \end{array}$$

2. 27.8% + 9.2% + 11% =

3.
$$\begin{array}{r} 14\ \% \\ +18.6\% \\ +22.2\% \\ +136.5\% \\ \hline \end{array}$$

4. 9% + 12% + 82.1% =

5.
$$\begin{array}{r} 16.5\% \\ +11.9\% \\ +\ 8.4\% \\ +22.6\% \\ +17.7\% \\ +\ 3.0\% \\ \hline \end{array}$$

6. 82% - 64% =

7. 19% - 12.2% =

8.
$$\begin{array}{r} 16.8\% \\ -\ 7.2\% \\ \hline \end{array}$$

9.
$$\begin{array}{r} 44.4\% \\ -39.5\% \\ \hline \end{array}$$

10.
$$\begin{array}{r} 123.8\% \\ -\ 96.9\% \\ \hline \end{array}$$

Percents
Activity Sheet 6A
Multiplying Percents

Name _____

Multiplying percents is easy if you first change the percents to decimals. If you don't know how to change percents to decimals, see Activity Sheet 3A.

You do this kind of problem in steps. Look at this example on how to multiply 13% x 22%.

1. 13% x 22% = -- First, remove the percent signs.

2. .13 x .22 Move each decimal point <u>two digits to the left.</u>

3. .13 x .22 = .0286 Multiply the new problem. Sometimes it is easier to put the problem in a different form.

```
 .13
x.22
  26
 26
.0286
```

4. .02.86 Move the decimal place of the answer <u>back to the right by two digits.</u>

5. 2.86% Put in the percent sign.

Instructions: Do these problems. Remember to change the percents to decimals. Then multiply. Then change your answer back to a percent again.

1. 10% x 90% =

2. 4% x 80% =

3. 40% x 21% =

4. 15% x 6.5% =

5. 28% x 3.3% =

6. 17% x 15% =

7. 92% x 25% =

8. 44.5% x 18.2% =

9. 83.67% x 12.1% =

10. 14.8% x 66.6% =

Percents
Activity Sheet 7A
Dividing Percents

Name _____

Dividing with percents is just like dividing with whole numbers or decimals. All you have to do is forget about the percent signs. Then, when the problem is finished, you put a percent sign on your answer.

Instructions: Divide these problems. Remember to put a percent sign on your answer.

Example 1: 18% ÷ 3% = 6%

$$3\%\overline{)18\%}\quad 6\%$$

Sometimes it is easier to change the form of the problem.

Example 2: 89.4% ÷ 14.3% = 6.252%

$$14.3\%\overline{)89.4\%}\quad 6.2517$$

85 8
3 60
2 86
740
715
250
143
1070
1001
69

If you have decimals, remember to move the decimal points to the right. You may have to round off your answer at 3 decimal places.

1. 15% ÷ 5% =

2. 14% ÷ 8% =

3. 84% ÷ 13% =

Name _____

4. 51.2% ÷ 17% =

5. 108% ÷ 10.8% =

6. 48.7% ÷ 8.9% =

7. 96.9% ÷ 8.4% =

8. 85.42% ÷ 16.3% =

9. 126.1% ÷ 1.29% =

10. 91.5% ÷ 8.8% =

CHECK SHEET

Percents
Activity Sheet 1A
What Are Percents:

Name _____

	a	b	c	d
1.	☐	☐	■	☐
2.	☐	■	☐	☐
3.	■	☐	☐	☐
4.	☐	☐	☐	■
5.	☐	☐	☐	■
6.	☐	■	☐	☐
7.	■	☐	☐	☐
8.	☐	☐	■	☐
9.	☐	☐	■	☐
10.	☐	■	☐	☐

CHECK SHEET

Activity Sheet 2A
Percents and Fractions

1. 30%
2. 38%
3. 28%
4. 55%
5. 40%
6. 25%
7. 50%
8. 62.5%
9. 16.67%
10. 66.66%
11. 70%
12. 46%
13. 56%
14. 65%
15. 60%
16. 75%
17. 87.5%
18. 50.01% or 50%
19. 33.33%
20. 83.35%

CHECK SHEET

Activity Sheet 3A
Changing Percents to Decimals, and
Decimals to Percents

1. .20
2. .12
3. .709
4. .053
5. .25
6. .458
7. .22326
8. 30%
9. 9%
10. 35.4%
11. 5%
12. 65.92%
13. 75%
14. 36.8%
15. .958
16. 20.1%
17. .14
18. 17.22%
19. 1.00
20. .27%

CHECK SHEET

Activity Sheet 4A
Finding Percents of Numbers

1.	10	11.	.1875
2.	35	12.	2.3002
3.	100	13.	37.3536
4.	175	14.	29.3319
5.	39.6	15.	12.1432
6.	441	16.	81.5067
7.	276.8	17.	185.679
8.	200.42	18.	96.5682
9.	2.208	19.	10.7958
10.	37.17	20.	75.5163

CHECK SHEET

Activity Sheet 5A
Adding or Subtracting Percents

1. 64%

2. 48%

3. 191.3%

4. 103.1%

5. 80.1%

6. 18%

7. 6.8%

8. 9.6%

9. 4.9%

10. 26.9%

CHECK SHEET

Activity Sheet 6A
Multiplying Percents

1. 9%

2. 3.2%

3. 8.4%

4. 0.975%

5. 0.924%

6. 2.55%

7. 23%

8. 8.099%

9. 10.12407%

10. 9.8568%

CHECK SHEET
Activity Sheet 7A
Dividing Percents

1. 3%

2. 1.75%

3. 6.462%

4. 3.012%

5. 10%

6. 5.472%

7. 11.536%

8. 5.240%

9. 97.752%

10. 10.398%

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Name _____

MODULE PREVIEW/REVIEW

MEASURES

Instructions: Work the problems below on scratch paper. Choose the correct answer. Blacken in the space for the correct answer on your answer sheet.

Example:

The word inch is abbreviated as:

(a) mo. (c) ft.
(b) yd. (d) in.

a	b	c	d
||	||	||	■

---

1. How do you write six dollars and forty-two cents?

(a) $6.42 (c) 6.42
(b) $6.042 (d) $6.00.42

2. $18.95
X 2.14

(a) $.40550 (c) $40.55
(b) 40.55 (d) 40.55¢

3. $.25 /$7.50

(a) 30 (c) $.30
(b) $30.00 (d) $3.00

4. 6 meters + 6.80 meters + 5 meters 23 centimeters =

(a) 17 cm 103 m (c) 48 cm
(b) 18.03 cm (d) 18.03 meters

5. 14 meters ÷ .07 m =

(a) 20 (c) 2.0 m
(b) 200 (d) 2,000 cm

6. 6 meters 28 centimeters X 4 =

(a) 24 m 112 cm (c) 25 m 12 cm
(b) 24.112 cm (d) .2512 meters

Name _____

7. 9 ft 4 in - 2 yds 1 ft 3 in =

(a) 7 yds 0 in
(b) 2 ft 1 in
(c) 8 ft 1 in
(d) 2 yds 2 ft 2 in

8. 3 yards 1 foot 1 inch X 11 =

(a) 33 yds 12 ft 11 in
(b) 51 inches
(c) 33.11 yds
(d) 36 yds 2 ft 11 in

9. 6 yds 1 ft 2 in ÷ 46 =

(a) 5 in
(b) 3 ft 2 in
(c) 2 yds 1.2 ft
(d) 5

10. 1 wk 4 days - 6 days 2 hrs =

(a) 1 day 2 hrs
(b) 4 days 22 hrs
(c) 14 days 6 hrs
(d) 2 wks 3 days 2 hrs

11. 4 min 13 sec X 5 =

(a) 20 min 55 sec
(b) 0.2055 min
(c) 21.55
(d) 21 min 5 sec

12. 1 hr 10 min 40 sec ÷ 3 min 32 sec =

(a) 20
(b) 20 min
(c) 20 hrs
(d) 20 sec

13. 5 gals 1 qt 1 C + 1 gal 3 qts 1 pt 1 C + 2 qts 3 C =

(a) 6 gals 6 qt 6 C
(b) 19 gals 0 qts
(c) 7 gals 3 qts 3 C
(d) 52 pints

14. 2 gals 3 qts 1 C X 5 =

(a) 10.155 C
(b) 10 gals 12 qts 5 C
(c) 14 gals 1 C
(d) 10 gals 15 qts 4 pts 1 C

15. 1 gal 3 qts 1 pt ÷ 10 =

(a) 3
(b) 3 C
(c) 3 qts
(d) 3 pts

Answer Sheet
Module Preview/Review
Measures

Name _____

	a	b	c	d
1.	||	||	||	||
2.	||	||	||	||
3.	||	||	||	||
4.	||	||	||	||
5.	||	||	||	||
6.	||	||	||	||
7.	||	||	||	||
8.	||	||	||	||
9.	||	||	||	||
10.	||	||	||	||
11.	||	||	||	||
12.	||	||	||	||
13.	||	||	||	||
14.	||	||	||	||
15.	||	||	||	||

ANSWER KEY/DIAGNOSTIC
Module Preview/Review
Measures

Name _____

	a	b	c	d	IF WRONG, ASSIGN:
1.	■	||	||	||	1
2.	||	||	■	||	1
3.	■	||	||	||	1
4.	||	||	||	■	2
5.	||	■	||	||	2
6.	||	||	■	||	2
7.	||	■	||	||	3
8.	||	||	||	■	3
9.	■	||	||	||	3
10.	||	■	||	||	4
11.	||	||	||	■	4
12.	■	||	||	||	4
13.	||	||	■	||	5
14.	||	||	■	||	5
15.	||	■	||	||	5

Name _____

MODULE RECORD SHEET

MEASURES

OBJECTIVE: Know basic facts about dollars and cents, meters, yards, units of time, and gallons. Find the answers for problems of addition, subtraction, multiplication, and division of these measures.

SAMPLE TEST ITEMS:

1. 1 m 23 cm + 5 m 82 cm =

(a) 6 m 115 cm (c) 7.05 cm
(b) 6.105 cm (d) 7.05 m

a b c d

2. 18 hrs 12 min ÷ 6 min =

(a) 3 hrs 2 min (c) 18.12
(b) 182 (d) 3.12

a b c d

INTRODUCTION TO MEASURES:

We use measures every day. We measure money, distance or length, time, and volume. Most measures are made up of smaller measures. For instance, gallons are made up of quarts, pints, and cups. All these measures are made up of different numbers of other measures. For instance, there are four quarts in a gallon, but there are only three feet in a yard. You need to know how many smaller measures are in a big measure before you can add, subtract, multiply, or divide.

These activity sheets will teach you about some common measures. Work through all the activity sheets that have been circled. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all of the activity sheets and are sure you understand all the rules for measures, ask to take the Measures Review.

ACTIVITY SHEETS (Do those that are circled)

1.	Dollars and Cents	1A	1B
2.	Meters and Centimeters	2A	2B
3.	Yards, Feet, and Inches	3A	3B
4.	Units of Time	4A	4B
5.	Gallons, Quarts, Pints, and Cups	5A	5B

Measures
Activity Sheet 1A
Dollars and Cents

Name _____

Everybody knows what money is. You earn money every day. Sometimes you may spend it faster than you would like.

When you buy something with money, you often get change. If you want to make sure you get the right change, you have to be able to add and subtract money. Or if you want to buy several things and you're not sure you have enough money, you have to be able to add up dollars and cents to get the total.

RULE 1: DOLLARS AND CENTS ARE USUALLY WRITTEN WITH A DECIMAL POINT AND TWO DECIMAL PLACES. If you don't understand decimals, see the Decimals Module.

Here is an example: $19.57

19 dollars 57 cents

The 1 is in the tens place. It equals 10 dollars
The 9 is in the ones place. It equals 9 dollars
The 5 is in the tenths place. It equals $\frac{5}{10}$ of a dollar
The 7 is in the hundredths place. It equals $\frac{7}{100}$ of a dollar

So we have 10 dollars plus 9 dollars plus $\frac{5}{10}$ of a dollar plus $\frac{7}{100}$ of a dollar. But that's not what we say when we look at $19.57. Instead, we say "nineteen dollars and fifty-seven cents."

The numbers to the left of the decimal point are dollars. And the numbers to the right of the decimal point are cents.

RULE 2: THERE ARE 100 CENTS IN A DOLLAR. That's why you need two decimal places to write the cents. You need the tenths place and the hundredths place. So 57 cents is $\frac{57}{100}$ of a dollar, and it is written .57.

RULE 3: WHEN YOU ADD OR SUBTRACT OR MULTIPLY OR DIVIDE DOLLARS AND CENTS, IT IS JUST LIKE USING DECIMALS. The only difference is that you put a dollar sign ($) in front of the answer. Also, if you need to round your answer, round it to only two places.

RULE 4: WHEN YOU DIVIDE MONEY BY MONEY, YOU DON'T USE A DOLLAR SIGN FOR THE ANSWER. WHEN YOU DIVIDE MONEY BY A REGULAR NUMBER, USE A DOLLAR SIGN IN THE ANSWER.

Example: $18.00 ÷ $6.00 = 3
BUT $18.00 ÷ 6 = $3.00
If you have a remainder, round it to only two places.

Name _____

RULE 5: YOU NEED TO KNOW THE NAMES OF ALL THE COINS, AND HOW MANY OF THEM ARE IN A DOLLAR.

1¢ = a penny = 1 cent. There are 100 pennies in $1.00
5¢ = a nickel = 5 cents. There are 20 nickels in $1.00
10¢ = a dime = 10 cents. There are 10 dimes in $1.00
25¢ = a quarter = 25 cents. There are 4 quarters in $1.00
50¢ = a half-dollar = 50 cents. There are 2 half-dollars in $1.00

INSTRUCTIONS: Use the rules you learned to answer the questions below. Do Part A first, then read the new instructions and do Part B.

PART A: Choose the correct answer to each question. Fill in the blank under the correct letter in the answer column.

1. How many dollars are in $23.85?

(a) twenty (c) twenty-three
(b) three (d) eighty-five

a b c d

2. How many cents are in $23.85?

(a) five (c) eight
(b) three (d) eighty-five

a b c d

3. How do you write six dollars and forty-two cents?

(a) $6.42 (c) 6.42
(b) $6.042 (d) $6.00.42

a b c d

4. How do you write 5¢?

(a) .05 (c) .5
(b) $.05 (d) $0.5

a b c d

5. How do you write 3 quarters plus 2 dimes plus 1 nickel plus 1 penny?

(a) $56. (c) $100.1
(b) $.77 (d) $1.01

a b c d

Measures
Activity Sheet 1A Continued
Dollars and Cents

Name _____

6. How many cents are in a dollar?

(a) 10 (c) 1000
(b) 100 (d) 1

a b c d
☐ ☐ ☐ ☐

7. How many nickels does it take to equal 1 quarter?

(a) 20 (c) 100
(b) 4 (d) 5

a b c d
☐ ☐ ☐ ☐

8. How much is (50¢) - (10¢) (5¢)

(a) $.60 (c) $.25
(b) $.35 (d) $.65

a b c d
☐ ☐ ☐ ☐

PART B: Figure out these problems. Remember to put a dollar sign in front of your answer, except in division problems where you divide money by money. Remember to round your answer to two places if you need to.

9. $1.43 + $8.12 =

10. $19.82
+ $101.95

11. $11.41
+ $ 2.86
+ .93
+ $296.14

12. $9.96 - $7.11 =

13. $204.92
- .63

Measures
Activity Sheet 1A
Dollars and Cents

Name _____

14. $7.78
-$5.42

15. $6.12
X .03

16. $18.92
X 2.14

17. $76.98
X 8.10

18. $3.33 ÷ $.03 =

19. $.25 /$7.50

20. 1.17 /$191.91

Measures
Activity Sheet 2A
Meters and Centimeters

Name _____

You know that one dollar equals 100 cents. There is another measure that is divided into 100 parts. It is called a meter.

A meter is a length which is a little more than a yard. The meter is used in Europe. You see it used in the USA more often than it used to be, too. It is often used in the Army.

Here are three rules for meters:

RULE 1: A METER IS DIVIDED INTO 100 CENTIMETERS. The meter is written m, and the centimeter is written cm. So 1m 23cm equals 1 meter and 23 centimeters. You could also write it 1.23m. This means 1 meter and $\frac{23}{100}$ of a meter, or 23cm.

RULE 2: YOU CAN ADD, SUBTRACT, AND MULTIPLY METERS JUST LIKE DECIMALS. Just write the numbers like decimals. For example:

1m 23cm + 5m 82cm =		
↓ ↓		
1.23m + 5.82m =		Change the meters to decimal form
↓ ↓		
1.23m + 5.82m =	7.05m	Do the problem

Your answer, 7.05m, means 7 meters and 5 centimeters.

RULE 3: WHEN YOU DIVIDE METERS BY METERS, YOUR ANSWER IS JUST A NUMBER. BUT WHEN YOU DIVIDE METERS BY REGULAR NUMBERS, YOUR ANSWER IS IN METERS.

Example: 15.30m ÷ 45cm = 34
but 15.30m ÷ 45 = 34cm

INSTRUCTIONS: Do these problems with meters and centimeters. Then choose the correct answer from the answer choices. Mark the correct space on your answer sheet.

1. 8 meters and 62 centimeters =

(a) 8.062m (c) 8620cm
(b) 8.62m (d) 8.062cm

2. 14.95m =

(a) 1.495cm (c) 14 meters and 95 centimeters
(b) 14cm 95m (d) 149.5cm

Name _____

3. 6 meters + 6.80 meters + 5 meters 23 centimeters =

(a) 17cm 103m
(b) 18.03cm
(c) 48cm
(d) 18.03 meters

4. 33cm ÷ 3 =

(a) 3 meters
(b) 11cm
(c) .11cm
(d) 11 meters

5. 14 meters ÷ .07m =

(a) 200
(b) 20
(c) 2.0m
(d) 2,000cm

6. 12 meters - 8m 92cm =

(a) 20m 92cm
(b) $3\frac{8}{10}$ m
(c) 3 meters and 92 centimeters
(d) 3.08m

7. .90m X 20 =

(a) 18 meters
(b) .18 meters
(c) 18cm
(d) 1 meter 8cm

8. 1.80m
X2.40

(a) 4.032m
(b) 4 meters 32 centimeters
(c) 43.2m
(d) 432m

9. 6 meters 18 centimeters X 4 =

(a) 24m 72cm
(b) 24.72cm
(c) 24cm 72m
(d) .2472m

10. 19 meters ÷ 40cm =

(a) 47m 5cm
(b) 475cm
(c) .475 meters
(d) 47.5

ANSWER SHEET
Measures
Activity Sheet 2A
Meters and Centimeters

Name _____

	a	b	c	d
1.	||	||	||	||
2.	||	||	||	||
3.	||	||	||	||
4.	||	||	||	||
5.	||	||	||	||
6.	||	||	||	||
7.	||	||	||	||
8.	||	||	||	||
9.	||	||	||	||
10.	||	||	||	||

Measures
Activity Sheet 3A
Yards, Feet, and Inches

Name _____

We measure short distances in yards, feet, and inches. There are 12 inches in 1 foot. There are 3 feet in 1 yard. So you can see that there are 12 x 3 or 36 inches in 1 yard.

You can <u>abbreviate</u> yards, feet, and inches. Here are some ways:

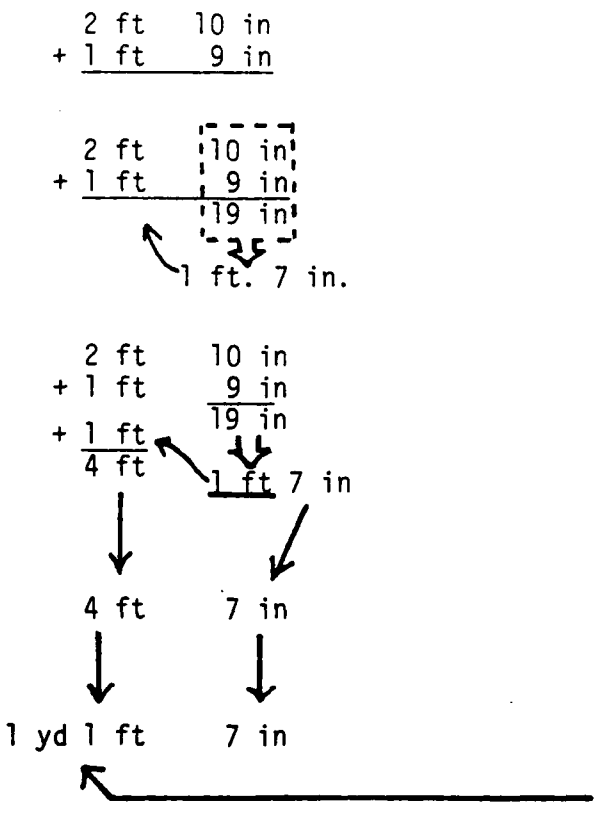
yards	=	yds		2 yards	=	2yds		
feet	=	ft	= '	2 feet	=	2ft	=	2'
inches	=	in	= "	2 inches	=	2in	=	2"

Learn to use these abbreviations.

When you add, subtract, multiply, or divide with yards, feet, and inches, you may have to <u>borrow</u> or to <u>carry</u>. You learned how to do this in whole numbers. Here are some examples of how to do problems with yards, feet, and inches.

<u>Example 1: Addition</u>

Add 2 feet 10 inches and 1 foot 9 inches.



First, line up the problem.

Next, add the inches. If your answer is more than 12, then change it to <u>feet</u> and <u>inches</u>. Then, carry the <u>feet</u> part to the <u>feet</u> side of the problem.

Add together the feet. Remember to add the foot you carried.

Your answer is in feet and inches.

If you have at least 3 feet, you can also change the feet into <u>yards</u>. But you don't <u>have</u> to do this; you can also leave the answer in feet and inches.

Name _____

Example 2: Subtraction

Subtract 1 foot 6 inches from 1 yd 5 inches.

$$\begin{array}{r} 1 \text{ yd } 5 \text{ in} \\ -\ 1 \text{ ft } 6 \text{ in} \end{array} = \begin{array}{r} 3 \text{ ft } 5 \text{ in} \\ -\ 1 \text{ ft } 6 \text{ in} \end{array}$$

Write out the problem.
Change the yards to feet.

$$\begin{array}{r} 2 \text{ ft } 17 \text{ in} \\ -\ 1 \text{ ft } 6 \text{ in} \\ \hline 1 \text{ ft } 11 \text{ in} \end{array}$$

You may have to borrow a foot and change it to 12 inches so you can subtract.

1 ft 11 in

Your answer is in feet and inches.

Example 3: Multiplication

You don't multiply feet times feet, but you can multiply feet or inches by other numbers.

Multiply 2 yds 1 ft 3 in X 4.

$$\begin{array}{r} 2 \text{ yds } 1 \text{ ft } 3 \text{ in} \\ \times \qquad\qquad 4 \\ \hline 8 \text{ yds } 4 \text{ ft } 12 \text{ in} \end{array}$$

Write out the problem.

Multiply each part separately. Don't carry yet!

8 yds 4 ft 12 in

Change the inches into feet if you can, and add them to the feet column.

8 yds 5 ft 0 in (1 ft = 0 in)

1 yd 2 ft 0 in

Change the feet to yards if you can, and add them to the yards column.

9 yds 2 ft 0 in

27 ft + 2 ft 0 in

29 ft 0 in

Your answer is in yards, feet, and inches. You can also have an answer in feet and inches, if you want. Just change the yards to feet and add the extra feet.

Name _____

Example 4: Division

You can divide yards, feet, and inches by other yards, feet and inches. Or you can divide them by any other kinds of numbers.

Divide 6 yds 2 ft 3 in by 9 inches.

9 in / 6 yds 2 ft 3 in

Write the problem.

6 X 36 = 216 2 X 12 = 24

Change all the yards and feet to inches. There are 36" in 1 yd, and 12" in 1 ft.

9 in /216 in + 24 in + 3 in

Add together all the inches.

```
      27
9 in /243 in
     18
      63
      63
       0
```

Divide the problem.

Remember, the answer is just a number, not yards or feet or inches. But if you divide yards, feet, and inches by another number, the answer should be in yards, feet and inches.

12 yds 2 ft 10 in ÷ 2 =

6 yds 1 ft 5 in

INSTRUCTIONS: Do these problems with yards, feet and inches. Remember the examples above. Borrow or carry whenever you need to.

1. 8 ft 6 in + 1 yd 2 ft 2 in =

2. 4 yds 2 ft 9 in + 3'7" =

3. 6'8" + 6 yds 1 ft 4 in + 7 feet 6 inches =

Measures
Activity Sheet 3A Continued
Yards, Feet, and Inches

Name _____

4. 9 ft 4 in - 2 yds 1 ft 3 in =

5. 12'5" - 6 feet 8 inches =

6. 4 yds 2 feet 11 inches - 13'9" =

7. 14 feet 4 inches
X 4

8. 3 yards 1 foot 1 inch
X 11

9. 6'5"
X 14

10. 3'4" ÷ 4 inches =

11. 2 yards 2 feet 2 inches ÷ 1'2" =

12. 6 yds 1 ft 2 in ÷ 46 =

Measures
Activity Sheet 4A
Units of Time

Name _____

Sometimes you may have to add, subtract, multiply or divide units of time. This is easy to do if you remember to borrow and carry. You can "borrow" small units of time from larger ones. Or you can put several small units of time together to make a larger one, then "carry" the answer over to the larger units of time.

Here are the most common units of time which you will use in computing:

1 year	(1 yr)	=	12 months = 52 weeks = 365 days
1 month	(1 mo)	=	28 to 31 days. Some months are longer than others.
1 week	(1 wk)	=	7 days
1 day		=	24 hours
1 hour	(1 hr)	=	60 minutes
1 minute	(1 min)	=	60 seconds

You learned how to add, subtract, multiply, and divide measures in Activity Sheet 3A. You practiced with yards, feet, and inches. You can use the same rules to solve problems with units of time. Here is a quick "recap" of the rules:

Addition:

2 yrs 4 mos + 1 yr 9 mos =

2 yrs	4 mos	
+ 1 yr	9 mos	
3 yrs	13 mos	
3 yrs	1 yr	1 mo
4 yrs		1 mo

Line up the problem.
Add each column.
Change smaller units to larger units if possible (that is, carry.)

Subtraction:

2 hrs 15 min - 45 min =

2 hrs 15 min	=	1 hr 75 min
- 45 min		- 45 min
		1 hr 30 min

Line up the problem.
Borrow a larger time unit if you have to, and change it to smaller units. Subtract all the columns, from right to left.

Multiplication: 1 week 6 days X 3 =

1 week	6 days	
X	3	
3 weeks	18 days	
3 wks	2 wks	+ 4 days
5 wks		4 days

Line up the problem. Multiply each column separately. Change the smaller units to larger ones if you can. Carry the new units over to the larger units' column.

Name _____

Division: 12 min 20 sec ÷ 2 min 28 sec

2 min 28 sec /12 min 20 sec

$$\begin{array}{r} 5 \\ 148 \text{ sec} \overline{)740 \text{ sec}} \\ \underline{740} \\ 0 \end{array}$$

Write the problem.

Change all the parts to the smallest unit of time. Divide. Remember, if you divide time by time your answer is just a number, not a unit of time. But if you divide time by a regular number, your answer should be in units of time.
Example: 12 min 20 sec ÷ 37 = 20 sec.

INSTRUCTIONS: Do these problems. Remember to borrow or carry when you need to. Look at the chart and the examples if you need help.

1. 1 wk 4 days 15 hrs + 6 days 11 hrs =

2. 2 wks 1 day + 3 wks 6 days 1 hr + 5 days 12 hrs =

3. 1 day 23 min + 12 hrs 15 min + 48 min 24 sec + 59 sec =

4. 1 day 6 hrs 12 min - 5 hrs 19 min =

5. 1 wk 4 days - 6 days 2 hrs =

6. 1 yr 5 mos - 11 mos =

Name _____

7. 16 wks 5 days X 7 =

8. 4 min 13 sec X 5 =

9. 6 days 8 hrs 15 min 47 sec X 11 =

10. 18 hrs 12 min ÷ 6 min =

11. 7 wks 7 days ÷ 1 wk 1 day =

12. 1 hr 10 min 40 sec ÷ 4 =

Measures
Activity Sheet 5A
Gallons, Quarts, Pints, Cups

Name _____

In the United States, many things are measured in gallons, quarts, pints, and cups. Once you know how many cups are in a pint or a quart, for instance, then you can compute using these measures. Here is a chart of the measures:

1 gallon	=	1 gal	= 4 quarts
1 quart	=	1 qt	= 2 pints or 4 cups
1 pint	=	1 pt	= 2 cups
1 cup	=	1 C	

If you worked Activity Sheets 3A and 4A, then you know how to add, subtract, multiply, or divide measures of length or time. You can use the same rules to compute with measures of volume (gallons, quarts, pints, and cups). Just remember to borrow from larger units if you need to, and carry groups of smaller units over to the larger units. Remember the special rules for division.

Instructions: Do these problems. Remember to borrow or carry if you need to. If you have trouble, go back to Activity Sheets 3A and 4A.

1. 1 gal 3 qts + 2 gals 2 qts =

2. 8 gals 3 qts 1 pt + 2 qts 1 pt 1 C =

3. 5 gals 1 qt 1 C + 1 gal 3 qts 1 pt 1 C + 2 qts 3 C =

4. 3 qts 1 C - 2 qts 1 pt =

5. 1 gal 2 qts 1 pt - 1 qt 3 C =

6. 5 gals 1 qt 1 pt 1 C - 3 gals 3 qts 1 C =

7. 2 gals 3 qts 1 C X 5 =

8. 1 gal 2 qts 1 pt 1 C X 14 =

 Name _____

9. 4 gals 1 qt 3 C X 9 =

10. 8 gals 2 qts 1 pt ÷ 1 qt 2 C =

11. 3 gals 1 qt 1 pt 1 C ÷ 1 qt 1 C =

12. 1 gal 3 qts 1 pt ÷ 10 =

CHECK SHEET
Measures
Activity Sheet 1A
Dollars and Cents

1. c
2. d
3. a
4. b
5. d
6. b
7. d
8. b
9. $9.55
10. $121.77
11. $311.34
12. $2.85
13. $204.29
14. $2.36
15. $.18
16. $40.49
17. $623.54
18. 111
19. 30
20. $164.03

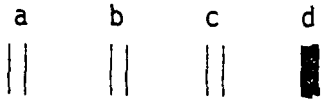
CHECK SHEET
Measures
Activity Sheet 2A
Meters and Centimeters

Name _____

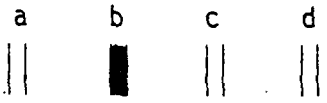
1. a b c d

2. a b c d

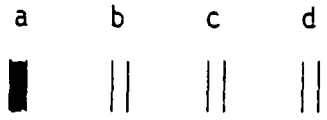
3. a b c d



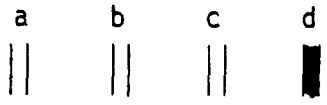
4. a b c d



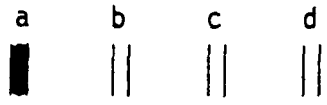
5. a b c d



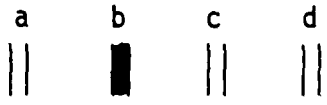
6. a b c d



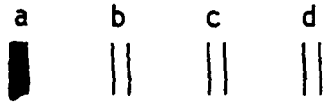
7. a b c d



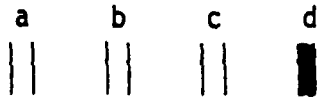
8. a b c d



9. a b c d



10. a b c d



CHECK SHEET
Measures
Activity Sheet 3A
Yards, Feet, and Inches

1. 4 yds 1 ft 8 in or 13 ft 8 in

2. 6 yds 4 in or 18 ft 4 in

3. 11yds 6in or 33ft 6in

4. 2 ft 1 in

5. 5ft 9in or 1yd 2ft 9in

6. 1ft 2in

7. 57ft 4in or 19yds 4in

8. 36yds 2ft 11in or 110ft 11in

9. 89 ft 10 in or 29 yds 2 ft 10 in

10. 10

11. 7

12. 5in

CHECK SHEET
Measures
Activity Sheet 4A
Units of time

1. 2 wks 4 days 2 hrs

2. 6 wks 5 days 13 hrs

3. 1 day 13 hrs 27 min 23 sec

4. 1 day 53 min

5. 4 days 22 hrs

6. 6 mos

7. 117 wks or 2 yrs 13 wks

8. 21 min 5 sec

9. 69 days 18 hrs 53 min 37 sec or 9 wks 6 days 18 hrs 53 min 37 sec

10. 182

11. 7

12. 17 min 40 sec

CHECK SHEET
Measures
Activity Sheet 5A
Gallons, Quarts, Pints, Cups

1. 4 gals 1 qt

2. 9 gals 2 qts 1 C

3. 7 gals 3 qts 1 pt 1 C or 7 gals 3 qts 3 C

4. 1 pt 1 C or 3 C

5. 1 gal 1 pt 1 C or 1 gal 3 C

6. 1 gal 2 qt 1 pt or 1 gal 2 qt 2C

7. 14 gals 1 C

8. 23 gals 2 qt 1 pt or 23 gals 2 qt 2C

9. 39 gal 3 qts 3 C or 39 gal 3 qts 1 pt 1 C

10. 23

11. 11

12. 1 pt 1 C or 3 C

Name _____

MODULE PREVIEW
STORY PROBLEMS

Instructions: In the story problems that follow, you are given four choices of answers. Work the problem. Then mark the answer sheet with the correct answer.

EXAMPLE: Pete went to the PX with $17.80 in his pocket. He bought a shirt for $11.60, a cap for $2.10 and a magazine for $1.25. How much money did Pete have left?

A. $2.05 C. $15.95
B. $14.95 D. $2.85

($11.60 + $2.10 + $1.25 = $14.95.)

A	B	C	D
0	0	0	●

$17.80
- 14.95
$ 2.85 left

1. Carter had $10.00. He spent $4.30 on ribbons, $1.19 on chow, and 75¢ on a phone call. What sum did he spend?

a. $3.76 c. $16.24
b. $6.24 D. $5.24

2. The azimuth to Target A is 50 degrees. The azimuth to Target B is 95 degrees. What is the difference in the azimuths between the targets?

a. 145° c. 50°
b. 45° d. 35°

3. SGT Moore had $17.59 to last until pay day. After buying a record, he had $7.58 left. How much did the record cost?

a. $25.17 c. $10.99
b. $ 7.58 d. $10.01

4. How many inches are there in 52 feet?

a. 156 inches c. 624 inches
b. 520 inches d. 1872 inches

5. You need to rent a car for a PCS. It costs $23 a day, without mileage. How much does it cost, without mileage charges, to rent a car for the month of June? (June has 30 days.)

a. $690 c. $260
b. $960 d. $469

Name _____

6. During a postwide U.S. Savings Bond drive, $50,125 worth of $25 bonds were sold. How many bonds were sold?

   a. 2005 c. 25
   b. 205 d. $205

7. Several men are in the overweight program. One weighs 237 lbs. The other men weigh 216, 243, and 197. What is their total weight?

   a. 839 lbs. c. 893 lbs.
   b. 983 lbs. d. 793 lbs.

8. If seventeen camouflage helmet covers cost $35.02 at the military clothing store, find the cost of one.

   a. $20 c. $2.16
   b. $2.60 d. $2.06

9. A soldier bought three shirts at the PX at $5.85 each, 7 handkerchiefs at 79¢ each, and two ties at $3.83. He gave the clerk two twenty dollar bills. How much change did he receive?

   a. $10.47 c. $9.26
   b. $30.74 d. $9.62

10. A mess sergeant needed 50 lbs. of meat and 30 loaves of bread. How many eggs would he need for 62 men if he gives each man 2 eggs?

    a. 284 c. 142
    b. 124 d. 163

11. If it takes 1 hr. 31 minutes to load 5325 rounds of ammunition, how long will it take to load 10,650 rounds?

    a. 2 hrs. c. 1 hr. 31 min.
    b. 3 hrs. 2 min. d. 62 minutes

12. A seven-man detail dug a trench 15 feet long and 3 feet deep. Another detail of 8 men worked for 2 hours and added 11 feet to the length of the trench. If 40 feet of this trench are needed, how much is left to dig?

    a. 30 ft. c. 45 ft.
    b. 56 ft. d. 14 ft.

Name _____

13. Sergeant Avila drove to the Post Service Station and made the following purchases: 3 quarts of oil at 79¢ a quart, 10 gallons of gasoline at $1.14 a gallon, 2 cases of soda at $5.27 each and a package of 2 screw drivers at $1.68. How much change will he receive if he gives the clerk 3 $10 bills?

a. $ 4.01 c. $2.59
b. $25.73 d. $3.87

14. SFC Hidalgo has $2397 in the Credit Union. If he receives 7½% interest on his money, how much money will he have at the end of the year? Round off to the nearest cent.

a. $1797.77 c. $2756.77
b. $2251.50 d. $2576.78

15. The local appliance store was having a sale on VCRs. A brand name model cost $548 originally. It had already been marked down 5%. Now it was discounted another 15% of the original price. How much would SGT Caldon have to pay if he buys it during the sale?

a. $119.40 c. $438.40
b. $109.60 d. $463.70

16. If 1/3 of a yard of parachute cloth costs $6.00, how much will one yard cost?

a. $18.00 c. $1.80
b. $2.00 d. $20.00

17. How many pieces of metal, each 3/8 of an inch long, can be cut from a metal strip 72 inches long?

a. 72 c. 27
b. 27 inches d. 192

18. SGT Gadson borrowed $1200 from the Credit Union. The rate of interest is 12%. How much interest will he owe in the first year?

a. $120 c. $1344
b. $144 d. $1212

19. LT Shannon has $1500 in the Credit Union. The rate of interest on his savings is 9%. How much will Shannon have at the end of the year?

a. $1635 c. $1590
b. $1365 d. $135

Module Preview
Story Problems
Answer Sheet

Name _____

	a	b	c	d
1.	0	0	0	0
2.	0	0	0	0
3.	0	0	0	0
4.	0	0	0	0
5.	0	0	0	0
6.	0	0	0	0
7.	0	0	0	0
8	0	0	0	0
9.	0	0	0	0
10.	0	0	0	0
11.	0	0	0	0
12.	0	0	0	0
13.	0	0	0	0
14.	0	0	0	0
15.	0	0	0	0
16.	0	0	0	0
17.	0	0	0	0
18.	0	0	0	0
19.	0	0	0	0

MODULE PREVIEW
STORY PROBLEMS
ANSWER KEY/DIAGNOSTIC

	a	b	c	d	If missed, do these Activity Sheets
1.	0	●	0	0	1. 1, 2, 3, 12, 13
2.	0	●	0	0	2. 1, 2, 4, 13
3.	0	0	0	●	3. 1, 2, 4, 12,13
4.	0	0	●	0	4. 1, 2, 5, 12, 13
5.	●	0	0	0	5. 1, 2, 5, 13
6.	●	0	0	0	6. 1, 2, 6, 12, 13
7.	0	0	●	0	7. 1, 2, 3, 13
8.	0	0	0	●	8. 1, 2, 6, 12, 13
9.	0	0	●	0	9. 1, 2, 8, 12, 13
10.	0	●	0	0	10. 1, 2, 5, 13
11.	0	●	0	0	11. 1, 2, 7, 12, 13
12.	0	0	0	●	12. 1, 2, 7, 12, 13
13.	●	0	0	0	13. 1, 2, 8, 12, 13
14.	0	0	0	●	14. 1, 2, 7, 10, 13
15.	0	0	●	0	15. 1, 2, 7, 10, 13
16.	●	0	0	0	16. 1, 2, 7, 9, 13
17.	0	0	0	●	17. 1, 2, 9, 13
18.	0	●	0	0	18. 1, 2, 11, 13
19.	●	0	0	0	19. 1, 2, 11, 13

Name _____

MODULE RECORD SHEET
STORY PROBLEMS

OBJECTIVE: Use addition, subtraction, multiplication, or division to find the correct answer for any story problem.

SAMPLE TEST ITEM:

Pete went to the PX with $17.80 in his pocket. He bought a shirt for $11.60, a cap for $2.10, and a magazine for $1.25. How much money did Pete have left?

				A	B	C	D
A.	$ 2.05	C.	$15.95				
B.	$14.95	D.	$ 2.85	O	O	O	●

INTRODUCTION TO STORY PROBLEMS:

Story problems are just math problems written in words. They don't use signs to tell you to add, subtract, multiply, or divide. Instead, you figure out what to do by looking for key words. In story problems, you may have to work with whole numbers, fractions, percents, decimals, or measures. You may have to do more than one thing.

These activity sheets will show you how to work story problems. Work through all the activity sheets that have been circled. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand all the rules for story problems, ask to take the Story Problems Review.

ACTIVITY SHEETS (Do those that are circled)

1.	Key Words	1A	1B
2.	Understanding Story Problems	2A	2B
3.	Addition Problems	3A	3B
4.	Subtraction Problems	4A	4B
5.	Multiplication Problems	5A	5B
6.	Division Problems	6A	6B
7.	Two-Step Problems	7A	7B
8.	Three-Step Problems	8A	8B
9.	Problems with Fractions	9A	9B
10.	Problems with Percents	10A	10B
11.	Problems with Interest	11A	11B
12.	Problems with Measures	12A	12B
13.	Mixed Problems	13A	13B

Name _____

MODULE REVIEW

STORY PROBLEMS

Now you have completed all of the required activity sheets on Story Problems. This is a review of those activity sheets.

Instructions: You are given four choices of answer on the answer sheet. Work the problem. Mark the correct answer. If none of the answers matches your answer, mark NONE OF THESE.

Example: The army bought $2\frac{3}{4}$ tons of scrap metal at \$216 a ton. How much did it pay for the metal?

$$2\frac{3}{4} \times \$216 = \frac{11}{\cancel{4}\,1} \times \frac{\overset{54}{\cancel{216}}}{1} = \$594$$

- 0 a \$432
- 0 b \$494
- 0 c \$549
- 0 d \$378
- ● e None of these

1. SFC Hidalgo has \$2397 in the credit union. If he received 7½% interest on his money for 1 year, how much money will he have at the end of the year? Round off to the nearest cent.

- 0 a \$1797.77
- 0 b \$2251.50
- 0 c \$2756.77
- 0 d \$2576.78
- 0 e None of these

2. The local appliance store was having a sale on VCRs. A brand name model cost \$548 originally. It had already been marked down 5%. Now it was discounted another 15% off the original price. How much would SGT Whigum have to pay if he buys it during the sale?

- 0 f \$119.40
- 0 g \$438.40
- 0 h \$463.70
- 0 j \$109.60
- 0 k None of these

 Name _____

3. A 7-man detail dug a trench 15 feet long by 3 feet wide. Another detail of 8 men worked for 2 hours and added 11 feet to the length. If the sarge wanted 40 feet of trench, how much is left to dig?

0 a 14 ft.
0 b 30 ft.
0 c 45 ft.
0 d 56 ft.
0 e None of these

4. Fernandez's gross bi-monthly salary is $596.00. Uncle Sam takes out $\frac{1}{5}$ for taxes and Social Security. What is his take-home salary, to the nearest dollar?

0 f $119
0 g $377
0 h $596
0 j $737
0 k None of these

5. The government bought 36 acres for more government quarters. Each four-plex will be on a $\frac{3}{4}$ acre lot. How many sets of quarters can be built on the land?

0 a 27
0 b 18
0 c 48
0 d 36
0 e None of these

6. SP4 Smiley has a VISA bill of $683.00 this month. He pays 1½% interest if he fails to pay the balance in full each month. Money is tight this month so Smiley lets the VISA bill slide and makes no payment. How much interest will he owe, to the nearest cent?

0 f $10.25
0 g $6.83
0 h $683.00
0 j $693.25
0 h None of these

7. Rojas bought 12 towels for himself at a PX sale. He wanted to share them equally with his 3 buddies. How many towels did each man get?

0 a 36
0 b 4
0 c 12
0 d 3
0 e None of these

Name _____

8. For a company picnic, two-thirds of the men brought a date. If there were 30 men in the company, how many brought a date?

0 f 30
0 g 10
0 h 20
0 j 15
0 k None of these

9. SGT X weighs in at 270 in January. SGT Y weighs in at 250 the same month. Six months later, X weighs 205 and Y weighs 195. Who lost the most weight and how much more?

0 a X, 65 lbs.
0 b X, 20 lbs.
0 c Y, 20 lbs.
0 d Z, 10 lbs.
0 e None of these

10. Shannon hit 7 targets on the range. Carter hit 3 times as many. How many targets did Carter hit?

0 f seven
0 g ten
0 h four
0 j twelve
0 k none of these

ANSWER SHEET
Module Review
Story Problems

Name _____

1. a 0
   b 0
   c 0
   d 0
   e None of these

2. f 0
   g 0
   h 0
   j 0
   k None of these

3. a 0
   b 0
   c 0
   d 0
   e None of these

4. f 0
   g 0
   h 0
   j 0
   k None of these

5. a 0
   b 0
   c 0
   d 0
   e None of these

6. f 0
   g 0
   h 0
   j 0
   k None of these

7. a 0
   b 0
   c 0
   d 0
   e None of these

8. f 0
   g 0
   h 0
   j 0
   k None of these

9. a 0
   b 0
   c 0
   d 0
   e None of these

10. f 0
    g 0
    h 0
    j 0
    k None of these

MODULE REVIEW
Story Problems
ANSWER KEY/DIAGNOSTIC

			If missed, do these:
1.	a	0	1. 1, 2, 3, 5, 7, 11, 13
	b	0	
	c	0	
	d	●	
	e	0	
2.	f	0	2. 1, 2, 3, 5, 7, 10, 13
	g	●	
	h	0	
	j	0	
	k	0	
3.	a	●	3. 1, 2, 3, 4, 7, 12, 13
	b	0	
	c	0	
	d	0	
	e	0	
4.	f	0	4. 1, 2, 4, 6, 7, 9, 13
	g	0	
	h	0	
	j	0	
	k	●	
5.	a	0	5. 1, 2, 6, 9, 13
	b	0	
	c	●	
	d	0	
	e	0	
6.	f	●	6. 1, 2, 10, 11
	g	0	
	h	0	
	j	0	
	k	0	
7.	a	0	7. 1, 2, 3, 6, 7, 13
	b	0	
	c	0	
	d	●	
	e	0	

8.	f	○	8. 1, 2, 9, 13
	g	○	
	h	●	
	j	○	
	k	○	
9.	a	○	9. 1, 2, 4, 8, 13
	b	○	
	c	○	
	d	○	
	e	●	
10.	f	○	10. 1, 2, 5, 12, 13
	g	○	
	h	○	
	j	○	
	k	●	

Story Problems
Activity Sheet 1A
Key Words

Name _____

In the math modules you have completed before this, you learned that certain signs tell you how to work a problem.

13 + 7 = _____

The first symbol (+) means to add. The second symbol (=) means equal to. If you know what the symbols mean, you can work the problem with no trouble.

13 + 7 = 20

Now you are ready to learn about story problems. They are different. They are written in everyday language. There are no math signs in story problems. However, if you read the problem carefully, you know that the problem is a math problem. Then it is up to you to decide how to solve it. To do this, you must first decide what arithmetic process to use: addition, subtraction, multiplication, or division. Those are your only choices!

To help you decide which arithmetic process to use, keep in mind that every problem has KEY WORDS that will tell you whether to add, subtract, multiply, or divide.

Use addition if the problem uses words or phrases like these:

1. Find the SUM . . . .
2. What is the TOTAL . . . .
3. Determine the cost of ALL . . . .
4. What is the COMBINED . . . .
5. How much ALTOGETHER . . . .
6. How many JOINED . . . .
7. She has three AND I have one . . . .
8. How many did he HAVE IN ALL . . . .

Use subtraction if the problem uses phrases or words like these:

1. What is the DIFFERENCE . . . .
2. How much MORE . . . .
3. How much LESS . . . .
4. She BORROWED . . . .
5. They QUIT . . . .
6. I DELIVERED . . . .
7. How much is LEFT . . . .
8. He SOLD . . . .
9. We PAID . . . .

Name _____

10. You REMOVED . . . .
11. She ATE . . . .
12. What is the NET price . . . .
13. The price was REDUCED . . . .

Use multiplication if the problem uses phrases like these:

1. Find the cost of TEN ITEMS if the cost of ONE ITEM is . . . .
2. She has three TIMES AS MANY . . . .
3. One-third OF a group . . . .
   (Note: This tells you to multiply by a fraction.)
4. If EACH item costs . . ., how much will ALL cost?
5. If the MONTHLY cost is . . ., find the ANNUAL cost . . . .

Use division if the problem uses phrases like these:

1. How much is EACH . . . .
2. Find the cost PER . . . .
3. He wants to SHARE EQUALLY . . . .
4. I SPLIT the money . . . .
5. She DIVIDED the candy . . . .
6. Find the cost of ONE . . . .
7. The AVERAGE score . . . .
   (Note: For average, you have to add first, then divide.)

Remember: No matter how difficult a problem may seem, there are only FOUR arithmetic processes to choose from.

Instructions: Underline the KEY WORD or words in the parts of the problems below that tell you which process to use. Then blacken the circle that tells which process you would use to solve the problem.

	Add	Sub	Mult	Div
Example: Find the price of one shirt if 3 shirts cost $21.	0	0	0	●
1. They decided to share the profit equally.	0	0	0	0
2. What is the combined income of the Roberts family?	0	0	0	0
3. Jones has three times as many dependents as Smith.	0	0	0	0

Story Problems
Activity Sheet 1A
Key Words

Name _____

		Add	Sub	Mult	Div
4.	Five members quit the rifle team.	0	0	0	0
5.	How many canteens did he have in all?	0	0	0	0
6.	One-half of the new recruits had high school diplomas.	0	0	0	0
7.	Three women joined the court martial panel.	0	0	0	0
8.	He delivered seven of the documents to his commander.	0	0	0	0
9.	The cost was divided among the soldiers present.	0	0	0	0
10.	PFC Rowell sold seven tickets to his friends.	0	0	0	0
11.	The recruit paid him the money promptly.	0	0	0	0
12.	The sum of their paychecks was $982.00.	0	0	0	0
13.	They split the reward.	0	0	0	0
14.	Fisher had three times as many records as Jones.	0	0	0	0
15.	Kluzinski removed seven of the books from the cart.	0	0	0	0

Story Problems
Activity Sheet 2A
Understanding Story Problems

Name _____

Key Words are important in solving story problems. Whenever you work with a story problem in math, you have to translate every day language into math language. Sometimes figuring out what to do in a word problem is hard. However, there are certain steps you can follow. These steps will make working with story problems easier for you.

STEP 1: Read the problem. Get a mental picture of what is going on. Do you understand what the problem is telling you?

STEP 2: Decide what facts are given in the problem. Write down the known facts. This will help you understand how they are related.

STEP 3: Decide what the problem is asking you to find.

STEP 4: Decide which facts to use to answer the question.

STEP 5: Decide which math operation to use. Study the facts and decide if you should add, subtract, multiply or divide. Find the answer.

STEP 6: Ask yourself if your answer seems reasonable. Check your answer, the unknown fact, against the known facts in the problem.

Example: SGT Andrews worked 23 hours on his part-time job last week. His rate of pay was $6 per hour. Find his pay for the week.

Solve this problem step by step:

Step 1: The problem tells you Andrews' hourly rate of pay and the number of hours he worked.

Step 2: The given facts are (1) Andrews worked 23 hours and (2) his rate of pay was $6 per hour.

Step 3: The problem is asking for Andrews' total wages for the week.

Step 4: The facts to use are (1) 23 hours and (2) $6 per hour.

Step 5: You must MULTIPLY:

hours worked X rate per hour = total pay
23 X $6.00 = $138.00 (answer)

Step 6. Check your answer.

$138 ÷ 23 = $6.00

Story Problems
Activity Sheet 2A
Understanding Story Problems Name _____

Instructions: Solve the following problems step by step.

1. PVT Harrison drives a truck. On Tuesday he drove 70 miles in 2 hours. On Thursday, he drove 114 miles in 3 hours. On Friday, he drove 44 miles in 1 hour. How many miles did Harrison drive in the 3 days?

   Step 1:

   Step 2:

   Step 3:

   Step 4:

   Step 5:

   Step 6:

2. It takes Ralph 5 minutes to get to work. It takes Terry 8 minutes to get to work. It takes Hal 19 minutes to get to work. How many minutes faster does Ralph get to work than Terry ?

   Step 1:

   Step 2:

   Step 3:

   Step 4:

   Step 5:

   Step 6:

Story Problems
Activity Sheet 3A
Addition Problems

Name _____

You have learned that finding KEY WORDS is important in solving story problems. You have also learned that you must ask yourself certain questions to find out how to solve a story problem. Now you are ready to solve some story problems!

In Addition story problems you will find words like SUM, TOTAL, ALL, COMBINED, ALTOGETHER, JOINED, and HAVE IN ALL. It is important to read the problem to get a mental picture of what is happening. It is telling you a very brief story. You must use the facts you are given to correctly answer it. Then you must label your answer correctly.

Example:

The mess sergeant ordered 3 cases of tomato soup, 4 cases of chicken soup, and 7 cases of beef soup for his dining hall. How many cases of soup did he order altogether?

(Altogether is your key word. It tells you to ADD: 3 cases + 4 cases + 7 cases = 14 CASES. It is important that you label the answer correctly! Your answer is 14 Cases.)

Instructions: Underline the KEY WORDS in the following problems. Create a mental picture of what the problem is telling you. Compute your answer. SHOW your work on this sheet! Mark the circle of the correct answer.

Example:

I paid $1.70 for a fatigue cap, $6.95 for a shirt, and $6.95 for trousers. How much did I pay altogether?

$1.70
6.95
6.95
$15.60

a. $15.60 c. 15.60
b. $17.60 d. $14.60

a	b	c	d
●	0	0	0

"A" is the correct choice. "C" is the same number, but it has no dollar sign. It is not labeled correctly.

1. On Tuesday, five soldiers joined the track team. Seven soldiers joined on Wednesday and 8 more on Friday. How many soldiers joined the team that week?

a. 19 c. 13
b. 20 d. 15

a	b	c	d
0	0	0	0

Name _____

2. In June, Tuaui had extra duty 3 days. Waite had extra duty two days. Green and Fisher each had two days of extra duty. What was the combined amount of extra duty for the four men that month?

e. 7 g. 9 days
f. 7 days h. 6 days

e	f	g	h
0	0	0	0

3. Forty seven hundred people live in Carmel. Monterey has a population of 27,000. Salinas has 80,500 people. What is the total population of the three cities?

a. 107,970 c. 154,500
b. 102,200 d. 112,200

a	b	c	d
0	0	0	0

4. SP4 Williams's map shows three ridges surrounded by valleys. The elevations of the ridges are 400 meters, 600 meters and 300 meters. Altogether, what is the elevation of the ridges?

e. 1300 meters g. 900 meters
f. 700 meters h. 130 meters

e	f	g	h
0	0	0	0

5. SGT Anderson won $3.75 in a poker game. Sergeants Branch and Davis each won $4.90. How much did they win in all?

a. $8.65 c. $13.55
b. 6.05 d. $12.55

a	b	c	d
0	0	0	0

6. Company A has 5 women soldiers. Company B has 8. The other companies have none. How many women soldiers does the battalion have in all?

e. 13 g. 5
f. 3 h. 8

e	f	g	h
0	0	0	0

7. Carter had $10.00. He spent $4.30 on ribbons, $1.19 on chow, and 75¢ on a phone call. What sum did he spent?

a. $3.76 c. $16.24
b. $6.24 d. 5.24

a	b	c	d
0	0	0	0

8. Three men are in the overweight program. One weighs 237 lbs. The other two weigh 216 lbs. and 243 lbs. What is the total weight?

e. 796 lbs. g. 596 lbs.
f. 686 lbs. h. 696 lbs.

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 3A
Addition Problems

Name _____

9. Last year SGT Handley received several bonuses in addition to his basic pay. A reenlistment bonus was $1,050. A promotion bonus was $729. His incentive pay totaled $1,296. What was the combined amount of his bonuses for the year?

a. $14,075
b. 2,075
c. $9,636
d. $3,075

a	b	c	d
0	0	0	0

10. The terrain became steeper as the squad marched north. The first ridge was 325 meters. Next was higher ridge, 475 meters higher. Finally the squad reached a hilltop that was 620 meters higher than the last ridge. How many meters did the elevation increase altogether?

e. 1420 meters
f. 1095 meters
g. 295 meters
h. 800 meters

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 4A
Subtraction Problems

Name _____

Subtraction problems are easy to recognize. The key word DIFFERENCE means you subtract. Other key words which tell you to subtract are BORROWED, LEFT, PAID, FEWER, LESS, DELIVERED, REMOVED, QUIT, ATE, REDUCED and HOW MUCH (or MANY) MORE. Two other words, GROSS and NET, are often used in subtraction problems. GROSS refers to a total before any deductions are taken from it. NET is the amount that is left after the deductions are taken.

Example: PFC Goin gets a gross salary of $600 per month. Uncle Sam takes out $189 for taxes and social security. What is his net monthly salary?

$600 -- gross salary
- 189 -- deductions
$411 -- net salary

Instructions: Underline the KEY words in the following problems. Create a mental picture of what the problem is telling you. Remember to mentally "cross out" any information you don't need! Compute your answer. Show your work on this sheet. Mark the circle of the correct answer.

Example: Company A has 17 boxes of ammo. Company B has 6 boxes. Company C has 12 boxes. How many more boxes of ammo does Company C have than Company B?

12 boxes
- 6 boxes
6 boxes

a. 11 boxes
b. 6 boxes
c. 5 boxes
d. 35 boxes

a	b	c	d
0	●	0	0

Note: You don't need the information about Company A; it is extra.

1. The azimuth to Target A is 50 degrees. The azimuth to Target B is 95 degrees. What is the difference in the azimuths between the two targets?

a. 145°
b. 45°
c. 50°
d. 35°

a	b	c	d
0	0	0	0

2. The population of Fort Ord is 31,496. The population of Monterey is 27,000. The Presidio of Monterey has a population of 4315. How many fewer people does the Presidio have than Fort Ord?

e. 27,181
f. 35,811
g. 22,685
h. 31,315

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 4A
Subtraction Problems

Name _____

3. Fort Ord has 28,221 dependents living on post. Dependents living off post total 16,145. How many more dependents live on post?

a. 44,361
b. 12,086
c. 11,076
d. 12,076

a	b	c	d
0	0	0	0

4. The military payroll in FY81 at Fort Ord totaled $284 million. The military payroll in FY82 will total $323 million. How much less military payroll was there in FY81?

e. $49 million
f. $607 million
g. $39 million
h. $139 million

e	f	g	h
0	0	0	0

5. The size of Fort Ord is 193,154 acres. If the Army sold 7,155 acres, how many would remain?

a. 200,309 acres
b. 185,999 acres
c. 186,009 acres
d. 186,999 acres

a	b	c	d
0	0	0	0

6. PFC Gardner had thirty-six messages to deliver for his commander. He delivered 27 in the morning. How many messages were left to deliver in the afternoon?

e. 9
f. 63
g. 53
h. 8

e	f	g	h
0	0	0	0

7. The flying club had 17 members. Three of them quit. How many members are now in the club?

a. 4
b. 20
c. 14
d. 13

a	b	c	d
0	0	0	0

8. SGT Moore had $17.59 to last until payday. After buying a record, he had $7.58 left. How much did the record cost?

e. $25.17
f. $ 7.58
g. 10.99
h. $10.01

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 4A
Subtraction Problems

Name _____

9. The NCO Club had to sell 290 chances on a new car in order to break even. The Club sold only 189 of them. How many still had to be sold?

a. 479
b. 111
c. 91
d. 101

a	b	c	d
0	0	0	0

10. My gross salary is $12,970 per year. Deductions of taxes ($3700) and social security ($720) total $4420. What is my net salary for the year?

e. $4130
f. $8550
g. $17,390
h. $ 9530

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 5A
Multiplication Problems

Name _____

The key words TIMES AS MANY tell you that you need to multiply in story problems. However, the key words PRODUCT and TIMES are not often used. Instead of key words, watch for situations that mean to multiply. For example, you may be told the price of one item. Then you are asked to find the price of several items. Or, you may be told how far someone can drive a car on one gallon of gas. Then you are asked to find how far he can drive the car on several gallons of gas.

Example: SGT Kluzinski has a new diesel car. He can drive his car 35 miles on one gallon of diesel fuel. How far can he drive with 15 gallons of fuel?

$$\begin{array}{r} 35 \text{ miles} \\ \times\ 15 \\ \hline 175 \\ 35 \\ \hline 525 \text{ miles} \end{array}$$

Remember to label your answer correctly!

Instructions: Underline any KEY words you find in the following problems. Decide what the problem is asking you. Remember to mentally "cross out" any part of the problem that you don't need! Compute your answer. Show your work on this sheet! Mark the circle of the correct answer.

Example: Find the cost of ten uniforms if one costs $15.00

a. $1.50
b. $150.00
c. $15.00
d. $1[illegible].00

a	b	c	d
0	●	0	0

$$\begin{array}{r} \$15.00 \\ \times\ \ 10 \\ \hline \$150.00 \end{array}$$

1. You are zeroing your weapon on a 25 meter range using the standard sight. Turning the drum one notch clockwise will move the impact of the bullet 7 millimeters to the right. How many millimeters will the round move if you turn the drum 5 notches?

a. 35 mm
b. 3.5 mm
c. .12 mm
d. 25 mm

a	b	c	d
0	0	0	0

2. You need to rent a car for a PCS. It costs $23 a day, without mileage. How much does it cost, without mileage charges, to rent a car for the month of June (30 days)?

e. $690
f. $960
g. $260
h. $469

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 5A
Multiplication Problems

Name _____

3. Marshall School has 3 times as many transfer students as Stilwell School. Stilwell has 27 transfer students. How many transfer students does Marshall have?

a. 30
b. 72
c. 9
d. 81

a	b	c	d
0	0	0	0

4. Our classroom has 4 rows of desks with six desks in each row. How many desks are in our room?

e. 10
f. 24
g. 30
h. 18

e	f	g	h
0	0	0	0

5. The football stadium at Fort Ord is where the Peaches and Herb concert will be held. If Morale Support charges $6 for each ticket, how much money will Morale Support take in if 2200 tickets are sold?

a. $1200
b. $1320
c. $13,200
d. 2,800

a	b	c	d
0	0	0	0

6. SP4 Irvinski pays $13 for a gallon of paint. He buys nine gallons. How much does he pay altogether?

e. $117
f. 21
g. $171
h. $ 97

e	f	g	h
0	0	0	0

7. How much will nine lensatic compasses cost at $25 each?

a. $252
b. $125
c. $200
d. $225

a	b	c	d
0	0	0	0

Story Problems
Activity Sheet 5A
Multiplication Problems

Name _____

8. How many inches are there in 52 feet?

e. 156 inches
f. 520 inches
g. 624 inches
h. 1872 inches

e	f	g	h
0	0	0	0

9. If a rug is 9 feet wide and 17 feet long, how many square feet of area (length times width) are there in the rug?

a. 153 ft^2
b. 26 ft^2
c. 52 ft^2
d. 144 ft^2

a	b	c	d
0	0	0	0

10. Serrano received 7 frogs last week. Williams received six times as many. How many frogs did Williams have?

e. 24
f. 13
g. 42
h. 49

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 6A
Division Problems

Name _____

In division story problems, the words SPLIT, SHARE, SHARE EQUALLY, AVERAGE, DIVIDED, and PER usually mean to divide. Another key word, QUOTIENT, is almost never used.

Example: Jake picked 85 pounds of apples on his day off. He wants to split the apples equally among his five friends. How many pounds will each person get?

```
   17 pounds of apples
5/ 85 pounds
   5
   35
   35
```

Other situations may also mean to divide. For example, you may be told the price of several items. Then you are asked to find the price of one item.

Example: PFC Andrea paid $12 for six camouflage helmet covers. Find the price of one cover.

```
   $ 2 each
6/$12
```

Instructions: Underline any key words you find in the following problems. Create a mental picture of what the problem is telling you. Remember to mentally "cross out" any information you don't need! Compute your answer. Show your work on this sheet! Mark the circle of the correct answer.

Example: Rivas took three parts of the ASVAB. His scores totalled 279. What was his average on each part?

a. 31 c. 300
b. 93 d. 97

a	b	c	d
0	●	0	0

```
   93
3/279
  27
   9
   9
```

1. SGT Wellman is spending his leave with his grandmother who lives 385 miles away. If he averages 55 miles per hour on the trip, how long will the driving time be?

a. 7 miles c. 6½ hours
b. 70 hrs. d. 7 hrs.

a	b	c	d
0	0	0	0

Story Problems
Activity Sheet 6A
Division Problems

Name _____

2. During a postwide U.S. Savings Bond drive, $50,125 worth of $25 bonds were sold. Find the number of bonds sold.

e. 2005
f. 205
g. 25
h. $205

e	f	g	h
0	0	0	0

3. PFC Carter makes $12,120 per year. What is his monthly salary?

i. $1000
j. $1010
k. $1100
l. $11,000

i	j	k	l
0	0	0	0

4. In order to deliver 21,500 pounds of C-rations to the field, a vehicle had to make five trips. How many pounds were carried on each trip?

a. 43,000 lbs.
b. 3400 lbs.
c. 4300 lbs.
d. 107,500 lbs.

a	b	c	d
0	0	0	0

5. The profits of the bazaar were divided evenly among the Red Cross, Boy Scouts, Girl Scouts, and ACS. If the profits totalled $6300, how much did each group get?

e. $1575
f. $25,000
g. $1507
h. $157.50

e	f	g	h
0	0	0	0

6. If seventeen camouflage helmet covers cost $35.02 at the military clothing store, find the cost of one.

i. $20
j. $26
k. $2.60
l. $2.06

i	j	k	l
0	0	0	0

Story Problems
Activity Sheet 6A
Division Problems

Name _____

7. PVT Jones won $369 at bingo the other night. He decided to split it evenly among his two buddies and himself. How much money did each man receive?

a. $184.50 c. $12.30
b. $123.00 d. $369.00

a	b	c	d
0	0	0	0

8. How many feet of barbed wire do you have in 792 inches?

e. 7.92 ft. g. 66 ft.
f. 22 ft. h. 79 ft.

e	f	g	h
0	0	0	0

9. SGT Evans wants to split a board 102 inches long into 6 equal pieces. How long will each piece be?

i. 17 in. k. 16 in.
j. 18 in. l. 19 in.

i	j	k	l
0	0	0	0

10. If it takes 11 gallons of gasoline for a truck to go 121 miles, how many miles will it go on one gallon?

e. 132 miles g. 10 miles
f. 1331 miles h. 11 miles

e	f	g	h
0	0	0	0

Story Problems
Activity Sheet 7A
Two-Step Problems

Name _____

You have learned that you must decide if you add, subtract, multiply or divide in a story problem. Key Words help you decide what to do. A mental picture can also help. In the problems you have done so far, you only had ONE THING TO DO. Now you will learn how to do story problems that need TWO THINGS (or STEPS) to be done to get the answer.

Example: SGT Shannon had seven bills to pay before the end of the week. He paid 2 on Tuesday and 3 on Wednesday. How many bills did he have left to pay?

Can you find the answer if you do only ONE STEP (add, subtract, multiply, or divide)? NO, you must do TWO STEPS:

ADD → SUBTRACT

2 - Tuesday
+ 3 - Wednesday
5

7 - to begin with
- 5 - he wrote on Tuesday and Wednesday
2 bills left to pay

OR

SUBTRACT

7 - to begin with
- 2 - Tuesday
5 left

SUBTRACT

5 - left
- 3 - Wednesday
2 bills left to pay

Either way you get the same answer!

You don't always ADD and SUBTRACT in TWO-STEP story problems. Here are some of the steps you might need to use:

ADD → SUBTRACT
ADD → DIVIDE
ADD → MULTIPLY
SUBTRACT → ADD
SUBTRACT → MULTIPLY
SUBTRACT → DIVIDE
MULTIPLY → SUBTRACT
MULTIPLY → DIVIDE
DIVIDE → MULTIPLY

One TWO-STEP story problem needs special mention. You may be asked to find the AVERAGE of something -- money, grades, scores, people. To find the AVERAGE, you:

ADD → DIVIDE (by the number of items added)

Story Problems
Activity Sheet 7A
Two-Step Problems

Name _____

Example: Sam received 75 on the test. John got 82, and I got only 71. What is our average score?

ADD	DIVIDE
75 - Sam's score	76 - average score
82 - John's score	3/228 - (total of scores)
71 - my score	
228	

Three items added

Instructions: Decide which TWO-STEPS you need to use to solve these story problems. Write down those steps. Solve the problem. SHOW YOUR WORK! Circle your final answer! Do the work on the answer sheet.

Example: A field has eight rows of targets with seven targets in each row. If PVT Goin removes seven of the targets from that field, how many targets remain?

MULTIPLY →	SUBTRACT
8 rows	56
x 7 targets in each row	- 7
56 targets	49 targets left

1. SGT Davis had $15.00. He wanted to go to the rodeo. He paid $2.00 for bus fare, $6.25 for lunch at the rodeo, and 90¢ for peanuts. He spent what was left on a souvenir program. How much did the souvenir program cost?

2. Mrs. Lashbrook had 38 soldiers in her BSEP class on the first day. On Tuesday, ten of them volunteered to go to PLATO. She divided the remaining soldiers with Mrs. Howard. How many soldiers were in each class?

3. Army Community Service had 9 budget counselors. Four of those quit for personal reasons, but then 3 new counselors were trained and began work. How many budget counselors did A.C.S. have then?

4. Three soldiers are in the overweight program. Soldier A weighs 205 pounds. Soldier B weighs 173 pounds, and Soldier C weighs 249. What is their average weight in pounds?

5. An infantry platoon has 11 rows of soldiers with 3 soldiers in each row. Five soldiers in that Platoon fell out for sick call. How many soldiers remained in the Platoon?

Story Problems
Activity Sheet 7A
Two-Step Problems

Name _____

6. On a topographic map, 2 inches represent 75 miles. The distance between two ridges is 6 inches. How many miles apart are the two ridges?

7. For the annual Christmas drive to collect money for needy families, each company in the battalion raised $75.00. The money was divided among 4 families. If five companies participated, how much money did each needy family receive?

8. The Red Cross aided 67 soldiers last month. Army Community Service helped 51 people. The Alcohol and Drug Abuse Counseling aided 73 soldiers, and Army Emergency Relief loaned money to 25 soldiers. What was the average number of persons helped last month by these agencies?

Answer Sheet
Story Problems
Activity Sheet 7A
Two-Step Problems

Name _____

1.

2.

3.

Answer Sheet
Story Problems
Activity Sheet 7A
Two-Step Problems

Name _____

4.

5.

6.

7.

8.

Story Problems
Activity Sheet 8A
Three-Step Problems

Name _____

Now it is time to learn to do story problems that have THREE (or more) STEPS to complete to solve the problem.

[REMEMBER: IN ALL STORY PROBLEMS, NO MATTER HOW MANY STEPS YOU MUST DO, YOU ALWAYS LOOK FOR KEY WORDS FIRST. THEN TRY TO MAKE A MENTAL PICTURE OF WHAT THE PROBLEM IS TELLING YOU!]

Look at the following story problem:

> SGT Aragon was trying to balance his checkbook. He started the month with $67.32 in his account. Then he deposited his pay check of $633.00. He wrote checks for $10, $137.50, $18.75, and $250. What is the balance in SGT Aragon's checking account?

You may have had the same problem as SGT Aragon! How do you figure out how much money you still have to spend?

First, let's look for KEY WORDS in the above problem: DEPOSITED tells you to ADD; BALANCE means what is LEFT after you SUBTRACT. You must both ADD and SUBTRACT to find the correct answer.

```
 $ 67.32 - left over from last month
+ 633.00 - DEPOSITED (PUT IN)
 $700.32 - START OF MONTH

 $ 10.00                          $700.32 - start of month
  137.50                        - 416.25 - total checks written
   18.75                          $284.07 - amount left = BALANCE
  250.00
 $416.25 - TOTAL CHECKS WRITTEN
```

SGT Aragon has $284.07 left after he writes the four checks. That is his balance. In this problem you

ADD ⟶ ADD ⟶ SUBTRACT ⟶ ANSWER

Instructions: In the following story problem, you will need to do THREE or MORE steps to get the answer. Give the steps (as shown above). Then solve the problem. SHOW YOUR WORK! (LOOK FOR KEY WORDS!). Circle your final answer.

> Example: SGT Cassetta ordered a new car which listed at $5749.50. He had a tape player installed at an additional cost of $179.00. Then he decided to add rear speakers which cost $78.00 a pair. If the dealer gave Cassetta $1500 as a trade-in on his old car, how much did he owe for his new one?

Story Problems
Activity Sheet 8A
Three-Step Problems

Name _____

ADD		ADD		SUBTRACT	
$179.00	tape player	$5749.50	car	$6006.50	- total cost of new car
+ 78.00	speakers →	+ 257.00	"extras" →	- 1500.00	- trade in
$257.00		$6006.50		($4506.50)	- answer

1. SP4 Anders' gross pay included $538.00 basic pay and $150.00 quarters allowance. He had deductions of $25.00 for a savings bond, $120 for taxes and $25.00 for an overpayment from the previous month. What was the amount of SP4 Anders' net pay that month?

2. If PVT Lyles stopped smoking, he figured he could save $8.00 a week. If he walked to work, he could save $3.00 a week on gas. He had his eye on a new stereo component system. It cost $480. He decided he would quit smoking and walk to work. He put the money he saved in a jar. At the end of 16 weeks, how much more money will he still have to find in order to buy the stereo?

3. SGT Rawlings wanted to estimate how much travel pay he would receive on his PCS. He has a wife and two children, ages 3 and 7. He receives 18¢ per mile, his wife receives 12¢ and each child receives 6¢. His orders send him 1500 miles. If the government gave him travel pay but his actual expenses totalled $700, how much would he be in the hole for the move?

4. PVT Overby buys one savings bond for $25 each month. PVT Axle buys one bond for $75 each month. At the end of one year, how much more has Axle saved than Overby?

5. The recruit bought 7 shirts at $2.06 per shirt and two pairs of shoes at $23 a pair. How much change did he receive from $62.00?

ANSWER SHEET
Story Problems
Activity Sheet 8A
Three-Step Problems

Name _____

1.

2.

3.

4.

5.

Story Problems
Activity Sheet 9A
Problems with Fractions

Name _____

You have already learned about fractions. Fractions also appear in story problems. Here are some hints to help you identify the operations you will need to solve fraction story problems.

Addition and subtraction problems are easy to recognize. You have learned some of the key words for addition problems--SUM, TOTAL, ALTOGETHER, and COMBINED. You also learned some of the key words for subtraction--DIFFERENCE, HOW MUCH MORE, HOW MUCH LESS. The words GROSS and NET in a problem often are clues to subtract.

Multiplication problems are sometimes harder to recognize. The word OF following a fraction usually means to multiply.

Example: PVT Soames bought a used car for $2400. He paid $\frac{1}{3}$ of the price as a down payment. How much was his down payment?

$$\frac{1}{3} \overset{\text{of}}{\underline{\times}} \$2400 = \underline{\$800}$$

Watch for situations that mean to multiply. You may be told the price of one item. Then you are asked to find the price of several items.

Example: One pound of hamburger costs $1.78. Find the cost of $2\frac{1}{2}$ pounds for a meat loaf.

$$2\frac{1}{2} \times \$1.78 = \frac{5}{2} \times \frac{\$1.78}{1} = \$4.45$$

Division problems are the hardest to set up correctly. Remember that the thing being divided must come first in the problem. The words CUT, SHARE, SPLIT usually mean to divide.

The word PER in "miles per gallon" and "miles per hour" means to divide.

Example: SGT Kluzinski drove 95 miles in $2\frac{1}{2}$ hours with frequent stops. Find his average speed in miles per hour.

$$95 \div 2\frac{1}{2} = \frac{95}{1} \div \frac{5}{2} = \frac{95}{1} \times \frac{2}{5} = 38 \text{ miles per hour}$$

Watch for situations that mean to divide. For example, you may be told the cost of several items. Then you are asked to find the cost of one item.

Example: The army paid $15 for $3\frac{3}{4}$ reams of typing paper. Find the cost of one ream of paper.

$$\$15 \div 3\frac{3}{4} = \frac{15}{1} \div \frac{15}{4} = \frac{15}{1} \times \frac{4}{15} = \$4.00$$

Story Problems
Activity Sheet 9A
Problems with Fractions

Name _____

REMEMBER: In many problems you will need more than one step (operation) to get answers. List for yourself the steps you need to take before you start!

Instructions: List the steps you need to use to solve the following fraction story problems. Then solve the problem. SHOW YOUR WORK! Circle your final answer. (Don't forget your mental pictures.)

Example: Last year LT Ramsey made $13,500. He spent $\frac{1}{4}$ of his income on rent. How much did he spent on rent?

MULTIPLY

$$\frac{13500}{1} \times \frac{1}{4} = \$3375$$

3375

1. If $\frac{1}{3}$ yard of parachute cloth costs $6.00, how much will one yard cost?

2. The sergeant needs some small metal strips for the motor pool. How many pieces of metal, each $\frac{3}{8}$ of an inch long, can be cut from a metal strip 72" long?

3. Second offenders for drunken driving must pay fines over $500. Last month 27 soldiers were arrested for drunken driving. If $\frac{1}{3}$ of those were second offenders, how many soldiers had to pay fines over $500?

4. Counseling helps to change behavior. One-fourth of all persons counselled change their behavior for the better. One hundred soldiers are counselled for drug abuse. How many of those same soldiers will change their behavior for the better?

5. The Juarezes spend $\frac{3}{8}$ of their income for food, $\frac{1}{4}$ of their income for rent, and $\frac{3}{16}$ of their income for electricity. After these items are paid, what part of their income is left to spend?

6. SP4 Allen tries to save $\frac{1}{9}$ of his net income every month. His gross pay is $1000. His net pay is $810. How much will he save this month?

Name _____

7. Joyner wants to figure what kind of gas mileage he gets with his car. He drove 159 miles on $10\frac{3}{5}$ gallons of gasoline. How far did he drive on one gallon?

8. Rogers works at a part time job during off-duty hours. Monday, he worked $2\frac{1}{2}$ hours. Thursday he worked $1\frac{3}{4}$ hours, and on Saturday he worked $6\frac{2}{3}$ hours. How many hours that week did he work at his part-time job?

9. Rowell went to the PX sale. He bought a coat that regularly sold for $69. It was on sale for $\frac{1}{3}$ off. How much did Rowell pay for the coat?

10. Four buddies went fishing on the training holiday. They agreed to share the fish equally. Together they caught $17\frac{3}{4}$ pounds of fish. How many pounds did each person get?

ANSWER SHEET
Story Problems
Activity Sheet 9A
Problems With Fractions

Name _____

1.

2.

3.

4.

5.

ANSWER SHEET
Story Problems
Activity Sheet 9A
Problems With Fractions

Name _____

6.

7.

8.

9.

10.

Story Problems
Activity Sheet 10A
Problems with Percents

Name _____

You have learned that a percent is like a decimal or a fraction. Percents are often used in business. Interest rates, sales tax, and discounts are all measured in percents. For example, 6% is the sales tax rate in California.

Finding a percent of a number is the most common percent story problem. In these problems, you have the percent and the number you must find the percent of. Many examples of finding a percent of a number takes two or more steps.

Example: Williams bought a shirt for $12.95. The sales tax is 6%. What is the total price of the shirt, including tax?

First you must change the percent to a decimal.

6% = .06 → MULTIPLY → ROUND OFF → ADD

$12.95
x .06
.7770

.777 = $.78

$12.95
+ .78
$13.73

Example: A jacket was marked $45 in the clothing sales store. It was put on sale for 20% off? How much does it cost now?

20% = .20 → MULTIPLY → SUBTRACT

$45
x.20
$9.00

$45.00
- 9.00
$36.00

Instructions: Solve the following story problems. Change the percent to a decimal. Decide which operations to use. Compute the answer. Show your work! Circle your final answer.

1. A suit that normally sells for $168 is on sale for 50% off. What is the sale price of the suit?

2. SP4 Johnson and his wife are buying a house for $60,000. They have to make a down payment of 15%. How much is the down payment on the house?

3. In 1970, the sergeant's house cost $24,600. In 1980, the value of the house was 80% more than the 1970 price. Find the value of the sergeant's house in 1980. Round off to the nearest hundred.

Name _____

4. Last weekend PFC Owens took his girl out to dinner. The total bill came to $23.00. If he left a 15% tip, how much would the waitress get?

5. Of 220 men who took the SQT, 20% received a "NO-GO." How many men received a "GO"?

6. PVT Eason went to the civilian army surplus store to buy several items. He bought a mug with his unit crest for $4.95, 2 ribbons for $1.00, and a T-shirt for $6.00. If state tax is 6%, how much tax must he pay on his purchases? Round off to the nearest cent.

7. SP4 Davenport ordered a new car. It cost $6500. The dealer offered him $1500 for his present car as a trade-in. He accepted the offer. If state sales tax is 6%, how much tax will he need to pay on his new car?

ANSWER SHEET
Story Problems
Activity Sheet 10A
Problems with Percents

Name _____

1.

2.

3.

4.

5.

6.

7.

Story Problems
Activity Sheet 11A
Problems with Interest

Name _____

Interest is a common application of percents. Interest is money someone pays for using someone else's money. A bank pays you interest for using your money in a savings account. You pay the bank interest for using the bank's money on a loan.

To find interest, multiply the PRINCIPAL by the RATE by the TIME.

(P x R x T)

The PRINCIPAL is the money borrowed or loaned.
The RATE is the percent of interest.
The TIME is the number of years the money is borrowed or loaned.

Example: Find the interest on $600 at 7% annual interest for one year.

7% = .07 ⟶ MULTIPLY ⟶ MULTIPLY

$600	principal
x .07	interest rate
$42.00	

$42.00 x 1 (time year) = $42.00

When you do interest problems, follow the same rules for doing other percent problems.

Instructions: Solve the following interest story problems. Change the percent to a decimal. Compute your answer. Show your work. Circle your final answer.

1. The credit union loaned PVT Jaecke $1000 for a stereo. He was charged 12% interest. If the loan was for 2 years, how much interest did he pay?

2. SFC Hanson has $6392 in the credit union. If he receives 8% interest on his money, how much money will he have at the end of 1 year? (BE CAREFUL!) Round to the nearest cent.

Story Problems
Activity Sheet 11A
Problems with Interest

Name _____

3. How much interest will you pay if you borrow $450 at 11 $\frac{1}{2}$% for 1 year?

4. SFC Clark borrows $4200 for a new car. She takes 3 years to pay it off. The bank charges her 13% interest a year. What are her monthly payments? Round to the nearest dollar.

5. Find the interest: $1800 at 7.5% annual interest for 1 $\frac{1}{2}$ years.

Story Problems
Activity Sheet 12A
Problems with Measures

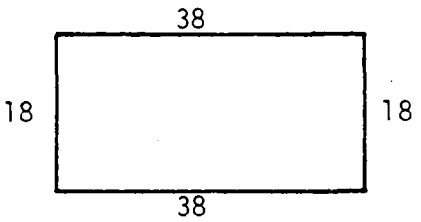
Name _____

These problems will give you a chance to apply your measurement skills to story problems. Some problems may take several steps to find the answer. Refer to your measures module activity sheets if you need to.

Two kinds of measurement story problems need special mention. The first is PERIMETER.

PERIMETER means the total distance around something. You ADD.

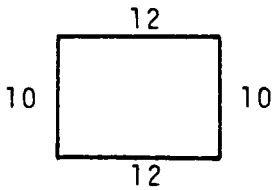
Example: If a yard measures 18 feet by 38 feet, how many feet of fence will it take to go AROUND the yard?



18 + 18 + 38 + 38 = (112 feet) of fence

AREA means measuring the amount of space inside something. You MULTIPLY.

Example: Harold needs a new carpet for his living room. If the room is 10 feet long and 12 feet wide, how many square feet of carpet will he need?



10' x 12' = (120) square feet

Instructions: Solve the following story problems. List your steps. Show your work. Circle your final answer.

1. The hall in Ramon's apartment is 3 feet wide and 9 feet long. He wants to buy a rug to cover the hall. How many square feet of rug will he need?

2. Company A spent 2 hrs. 25 min. on Monday painting the outside of the barracks. On Tuesday, they worked 1 hr. 40 min. Wednesday, they worked 3 hrs. 10 min. Altogether, how much time did Company A spend painting that week?

Story Problems
Activity Sheet 12A
Problems with Measures

Name _____

3. The corporal mailed 3 packages, each weighing 2 lbs. 9 oz. What was the total weight of the packages?

4. The cook ran out of margarine. He bought an 8 ounce package for 99¢. To the nearest cent, what was the price of one ounce of margarine?

5. The engineers need new fencing at the ball park. If the park is 200 feet in length and 150 feet in width, how much fencing do they need?

ANSWER SHEET
Story Problems
Activity Sheet 12A
Problems with Measures

Name _____

1.

2.

3.

4.

5.

Story Problems
Activity Sheet 13A
Mixed Problems

Name _____

This activity sheet has story problems of 1-step, 2-step, and 3-step operations. It is a review of addition, subtraction, multiplication, division, fractions, percents, measures, and interest.

Instructions: Read each problem carefully. Make a mental picture of the problem. Look for key words. Compute the answer. Mark it on the answer sheet. If your answer does not match one of the answers given, mark NONE OF THESE.

Example: SGT and Mrs. Delacruz bought new furniture marked $650. They agreed to pay for the furniture by making 15 equal monthly payments of $52 each. How much more than $650 did the furniture cost them?

MULTIPLY	SUBTRACT
52	$780
x 15	- 650
260	($130 more)
52	
$780	

0	a	$650
0	b	$780
0	c	$260
0	d	$520
●	e	None of these

1. On a BSEP spelling test, Ortiz spelled 18 words correctly. Delman spelled 13 words correctly and Green got 20 correct. What is their average number of correct spelling words:

a 13
b 51
c 17
d 16
e None of these

2. On the SQT 11B task of wearing a protective mask, 224 soldiers were tested. 92% passed. How many soldiers received a "NO-GO"? Round off.

f 18
g 8
h 206
j 132
k None of these

3. Yesterday 227 soldiers took the SQT 11B task of determining an azimuth. Only 89 got a "GO." On determining grid coordinates, only 63 got a "GO." How many more "NO-GO's" were there in determining grid coordinates?

a 38
b 138
c 164
d 26
e None of these

Story Problems
Activity Sheet 13A
Mixed Problems

Name _____

4. You are sighting through binoculars at an enemy tank which is 7.5 meters in width. It measures 5 mils. What is the range, in meters, to the tank?

($\frac{\text{Width}}{\text{mils}}$ = range, or Width ÷ mils = RANGE. A mil is written .001.

7 mils is written .007.)

f 15
g 1500
h 75
j 750
k None of these

5. At the PX, Hernandez bought toothpaste for 69¢, razor blades for $2.65 and writing paper for $1.59. How much change did he receive from a $10 bill?

a $5.07
b 4.93
c 7.34
d $5.17
e None of these

6. If SGT Ramon pays $3.50 each month for SGLI, how much does he pay per year?

f $420
g $240
h $24.00
j $35.00
k None of these

7. Henning hit 3 targets in the pistol matches. Woitekaitis hit 4 times as many targets. How many targets did Woitekaitis hit?

a 7
b 3
c 21
d 12
e None of these

8. Thirty units were invited to the change of command. Two-thirds said they would attend. How many units will attend?

f 12
g 32
h 20
j 45
k None of these

ANSWER SHEET
Story Problems
Activity Sheet 13A
Mixed Problems

Name _____

1.	a	0		2.	f	0		3.	a	0		4.	f	0	
	b	0			g	0			b	0			g	0	
	c	0			h	0			c	0			h	0	
	d	0			j	0			d	0			j	0	
	e	0			k	0-			e	0			k	0	
5.	a	0		6.	f	0		7.	a	0		8.	f	0	
	b	0			g	0			b	0			g	0	
	c	0			h	0			c	0			h	0	
	d	0			j	0			d	0			j	0	
	e	0			k	0			e	0			k	0	

CHECK SHEET
Story Problems
Activity Sheet 1A
Key Words

		Add	Sub	Mult	Div
1.	share . . . equally	0	0	0	●
2.	combined	●	0	0	0
3.	times as many	0	0	●	0
4.	quit	0	●	0	0
5.	have in all	●	0	0	0
6.	of	0	0	●	0
7.	joined	●	0	0	0
8.	delivered	0	●	0	0
9.	divided	0	0	0	●
10.	sold	0	●	0	0
11.	paid	0	●	0	0
12.	sum	●	0	0	0
13.	split	0	0	0	●
14.	times as many	0	0	●	0
15.	removed	0	●	0	0

CHECK SHEET
Story Problems
Activity Sheet 2A
Understanding Story Problems

1. Step 1: The problem tells you that Harrison is a truck driver, how many miles he drives on each day and how long it takes him.

   Step 2: The given facts are (1) Tuesday he drove 70 miles in 2 hours, (2) Thursday he drove 114 miles in 3 hours, and (3) Friday he drove 44 miles in one hour.

   Step 3: The problem is asking for total miles driven, not the hours it took.

   Step 4: The facts to use are (1) 70 miles, (2) 114 miles, (3) 44 miles. You don't need to know the hours.

   Step 5: You must ADD:

   $$\begin{array}{r} 70 \\ 114 \\ +\ 44 \\ \hline 228 \end{array}$$ miles: Answer

   Step 6: Check:

   $$\begin{array}{r} 44 \\ 114 \\ +\ 70 \\ \hline 228 \end{array}$$

2. Step 1: The problem is about the time it takes 3 people to get to work.

   Step 2: The given facts are (1) Ralph (5 minutes to work), (2) Terry (8 minutes to work), (3) Hal (19 minutes to work).

   Step 3: The problem is asking how much faster Ralph makes it to work compared to Terry.

   Step 4: The facts to use are (1) 5 minutes for Ralph, (2) 8 minutes for Terry.

   Step 5: You must SUBTRACT:

   Terry's time - Ralph's time = answer

   $$\begin{array}{r} 8 \text{ minutes} \\ -\ 5 \text{ minutes} \\ \hline 3 \text{ minutes faster - answer} \end{array}$$

   Step 6: The answer makes sense.

   $$\begin{array}{r} 5 \text{ minutes - Ralph} \\ +\ 3 \text{ minutes - faster} \\ \hline 8 \text{ minutes - Terry} \end{array}$$

CHECK SHEET
Story Problems
Activity Sheet 3A
Addition Problems

		a	b	c	d
1.	joined, more	0	●	0	0
2.	combined	e	f	g	h
		0	0	●	0
3.	total	a	b	c	d
		0	0	0	●
4.	altogether	e	f	g	h
		●	0	0	0
5.	in all	a	b	c	d
		0	0	●	0
6.	in all	e	f	g	h
		●	0	0	0
7.	sum	a	b	c	d
		0	●	0	0
8.	total	e	f	g	h
		0	0	0	●
9.	combined	a	b	c	d
		0	0	0	●
10.	altogether	e	f	g	h
		●	0	0	0

CHECK SHEET
Story Problems
Activity Sheet 4A
Subtraction Problems

		a	b	c	d
1.	difference	0	●	0	0
2.	fewer	●	0	0	0
3.	more	0	0	0	●
4.	less	0	0	●	0
5.	sold, remain	0	●	0	0
6.	delivered, left	●	0	0	0
7.	quit	0	0	●	0
8.	left	0	0	0	●
9.	sold	0	0	0	●
10.	gross, net	0	●	0	0

CHECK SHEET
Story Problems
Activity Sheet 5A
Multiplication Problems

NOTE: Don't count a question wrong if the soldier underlined different key words. These are just possible key words.

1. one notch, how many, 5 notches

a	b	c	d
●	0	0	0

2. a day, How much, 30 days

e	f	g	h
●	0	0	0

3. times as many

a	b	c	d
0	0	0	●

4. 4 rows, with, 6 desks in each row

e	f	g	h
0	●	0	0

5. for each, how much, 2200

a	b	c	d
0	0	●	0

6. a gallon, 9 gallons, how much

e	f	g	h
●	0	0	0

7. How much, nine, at $25 each

a	b	c	d
0	0	0	●

8. inches, in, feet

e	f	g	h
0	0	●	0

9. times

a	b	c	d
●	0	0	0

10. times as many

e	f	g	h
0	0	●	0

CHECK SHEET
Story Problems
Activity Sheet 6A
Division Problems

NOTE: These are possible key words. Don't mark the problem wrong if the soldier underlined different key words.

		a	b	c	d
1.	averages	0	0	0	●
2.	worth of	●	0	0	0
3.	per year, monthly	0	●	0	0
4.	trips, each trip	0	0	●	0
5.	divided	●	0	0	0
6.	cost of one	0	0	0	●
7.	split	0	●	0	0
8.	in	0	0	●	0
9.	split	●	0	0	0
10.	ten, how many, one	0	0	0	●

CHECK SHEET
Story Problems
Activity Sheet 7A
Two-Step Problems

1. ADD → SUBTRACT

$2.00
6.25
+ .90
$9.15

$15.00
- 9.15
$ 5.85

2. SUBTRACT → DIVIDE

38
- 10
28

14 soldiers
2/28

3. SUBTRACT → ADD

9
- 4
5

5
+ 3
8 counselors

4. ADD → DIVIDE

205
173
+ 249
627 lbs.

209 lbs.
3/627

5. MULTIPLY → SUBTRACT

11
x 3
33 soldiers

33
- 5
28 soldiers left

6. DIVIDE → MULTIPLY

3
2"/6"

75 miles
x 3
225 miles

CHECK SHEET
Story Problems
Activity Sheet 7A
Two-Step Problems

7. MULTIPLY → DIVIDE

$$\begin{array}{r} \$75.00 \\ \times\ 5 \\ \hline \$375.00 \end{array}$$

$$\begin{array}{r} \$\ 93.75 \\ 4/\$375.00 \\ 36 \\ \hline 15 \\ 12 \\ \hline 30 \\ 28 \\ \hline 20 \\ 20 \end{array}$$

8. ADD → DIVIDE

$$\begin{array}{r} 67 \\ 51 \\ 73 \\ +\ 25 \\ \hline 216 \end{array}$$

$$\begin{array}{r} 54 \text{ persons} \\ 4/216 \\ 20 \\ \hline 16 \\ 16 \end{array}$$

CHECK SHEET
Story Problems
Activity Sheet 8A
Three-Step Problems

1. ADD → ADD → SUBTRACT

$538.00	$ 25.00	$688.00
+ 150.00	120.00	- 170.00
$688.00	+ 25.00	$518.00
	$170.00	

2. ADD → MULTIPLY → SUBTRACT

$8.00	$11	$480
+ 3.00	x 16	- 176
$11.00	66	$304
	11	
	$ 176	

3. ADD → MULTIPLY → SUBTRACT

.18	1500	$700
.12	.42	- 630
.06	3000	$ 70
+ .06	x 6000	
.42	$630.00	

4. MULTIPLY → MULTIPLY → SUBTRACT

25	75	$900
x 12	x 12	- 300
50	150	$600
25	75	
$300	$900	

5. MULTIPLY → MULTIPLY → ADD → SUBTRACT

$2.06	$23	$14.42	$62.00
x 7	x 2	+ 46.00	- 60.42
$14.42	$46.00	$60.42	$ 1.58

CHECK SHEET
Story Problems
Activity Sheet 9A
Problems With Fractions

1. DIVIDE ⟶ MULTIPLY

$1 \div \frac{1}{3} = \frac{1}{1} \times \frac{3}{1} = 3$ $\quad 3 \times \$6.00 = \$18.00$

2. DIVIDE

$72 \div \frac{3}{8} = \frac{\overset{24}{72}}{1} \times \frac{8}{\cancel{3}_{1}} = 192$

3. MULTIPLY

$\frac{1}{3} \times 27 =$ 9 soldiers

4. MULTIPLY

$\frac{1}{4} \times 100 =$ 25 soldiers

5. ADD ⟶ SUBTRACT

$\frac{3}{8} = \frac{6}{16}$

$\frac{1}{4} = \frac{4}{16}$

$+ \frac{3}{16} = \frac{3}{16}$

$\frac{13}{16}$

$1 = \frac{16}{16}$

$- \frac{13}{16}$

$\frac{3}{16}$

6. MULTIPLY

$\frac{1}{\cancel{9}_{1}} \times \frac{\overset{90}{\cancel{\$810}}}{1} = \$90$

CHECK SHEET
Story Problems
Activity Sheet 9A
Problems with Fractions

7. DIVIDE

$$159 \div 10\frac{3}{5} = \frac{159}{1} \div \frac{53}{5} = \frac{\overset{3}{\cancel{159}}}{1} \times \frac{5}{\underset{1}{\cancel{53}}} = \boxed{15 \text{ miles}}$$

(Joyner needs to get a smaller car!)

8. ADD

$$2\frac{1}{2} = \frac{6}{12}$$

$$1\frac{3}{4} = \frac{9}{12}$$

$$6\frac{2}{3} = \frac{8}{12}$$

$$9\frac{23}{12} = \boxed{10\frac{11}{12} \text{ hours}}$$

9. MULTIPLY ⟶ SUBTRACT

$$\frac{1}{3} \times \$69 = \frac{1}{\underset{1}{\cancel{3}}} \times \frac{\overset{23}{\cancel{69}}}{1} = \$23$$

$$\begin{array}{r} \$69 \\ -\ 23 \\ \hline \boxed{\$46} \end{array}$$

10. DIVIDE

$$17\frac{3}{4} \div 4 = \frac{71}{4} \div \frac{4}{1} = \frac{71}{4} \times \frac{1}{4} = \frac{71}{16} = \boxed{4\frac{7}{16} \text{ lbs.}}$$

CHECK SHEET
Story Problems
Activity Sheet 10A
Problems with Percents

1. 50% = .50 → MULTIPLY → SUBTRACT

$168
.50
$84.00

$168
- 84
($ 84)

2. 15% = .15 → MULTIPLY

$60,000
x .15
300000
60000
($9000.00)

3. 80% = .80 → MULTIPLY → ADD → ROUND OFF

$24600
x.80
$19,680.00

$24,600
+ 19,680
$44,280 = ($44,200)

4. 15% = .15 → MULTIPLY

$23
x.15
115
23
($3.45)

5. 20% = .20 → MULTIPLY → SUBTRACT

220
20
44.00

220
- 44
(176 men)

6. ADD → MULTIPLY → ROUND OFF

$4.95
1.00
+ 6.00
$11.95

$11.95
x.06
$.7170 = ($.72 tax)

7. SUBTRACT → MULTIPLY

$6500
- 1500
$5000

$5000
x.06
($300.00)

CHECK SHEET
Story Problems
Activity Sheet 11A
Problems with Interest

1. 12% = .12 → MULTIPLY → MULTIPLY

$1000 × .12 = $120.00

$120 × 2 = (**$240**)

2. 8% = .08 → MULTIPLY → MULTIPLY → ADD

$6392 × .08 = $511.36

$511.36 × 1 = $511.36

$6392.00 + 511.36 = (**$6903.36**)

3. $11\frac{1}{2}$ = .115 → MULTIPLY → MULTIPLY

$450 × .115 = 2250, 450, 450 = $51.750

$51.75 × 1 = (**$51.75**)

4. 13% = .13 → MULTIPLY → MULTIPLY → ADD → DIVIDE

$4200 × .13 = 12600, 4200 = $545.00

$546 × 3 = $1638

$4200 + 1638 = $5838

36/5838 = 162.1 = (**$162.00**)

36, 223, 216, 78, 72, 60, 36

5. 7.5% = .075 → MULTIPLY → MULTIPLY

$1800 × .075 = 9000, 12600 = $135.000

$135 × 1.5 = 675, 135 = (**$202.50**)

CHECK SHEET
Story Problems
Activity Sheet 12A
Problems with Measures

1. MULTIPLY

$$\begin{array}{r} 3 \text{ ft.} \\ \times\ 9 \text{ ft.} \\ \hline (27) \text{ square feet} \end{array}$$

2. ADD

$$\begin{array}{rr} 2 \text{ hrs.} & 25 \text{ min.} \\ 1 \text{ hr.} & 40 \text{ min.} \\ +\ 3 \text{ hrs.} & 10 \text{ min.} \\ \hline 6 \text{ hrs.} & 75 \text{ min.} \end{array} = (7 \text{ hrs. } 15 \text{ min.})$$

3. MULTIPLY

$$\begin{array}{r} 2 \text{ lbs. } 9 \text{ oz.} \\ \times\ 3 \\ \hline 6 \text{ lbs. } 27 \text{ oz.} \end{array} = (7 \text{ lbs. } 11 \text{ oz.})$$

4. DIVIDE → ROUND

$$8/.99 = .123 \rightarrow (12¢)$$

$$\begin{array}{r} 8 \\ \hline 19 \\ 16 \\ \hline 30 \\ 24 \end{array}$$

5. ADD

$$200 + 200 + 150 + 150 = (700 \text{ ft.})$$

CHECK SHEET
Story Problems
Activity Sheet 13A
Mixed Problems

1.	a	0	2.	f	●	3.	a	0	4.	f	0
	b	0		g	0		b	0		g	●
	c	●		h	0		c	0		h	0
	d	0		j	0		d	●		j	0
	e	0		k	0		e	0		k	0
5.	a	●	6.	f	0	7.	a	0	8.	f	0
	b	0		g	0		b	0		g	0
	c	0		h	0		c	0		h	●
	d	0		j	0		d	●		j	0
	e	0		k	●		e	0		k	0

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Name _____

MODULE PREVIEW
LOCATORS AND VISUALS

Instructions: Use the locators and visuals below to answer the questions. Mark your answers on the answer sheet.

Use the Table of Contents to answer Questions 1 and 2.

THE INFANTRY PLATOON AND SQUAD
(INFANTRY, AIRBORNE, AIR ASSAULT, RANGER)

CONTENTS			PAGE
PREFACE			iv
CHAPTER 1.	THE BATTLEFIELD		
		GENERAL	1-1
	Section I	The Enemy	1-2
	Section II	The US Forces	1-15
CHAPTER 2.	PREPARATION FOR COMBAT		
		GENERAL	2-1
	Section I	Steps of the Troop Leading Procedure	2-2
CHAPTER 3.	THE OFFENSE		
		GENERAL	3-1
	Section I	How the Enemy Defends	3-2
	Section II	Movement	3-10
	Section III	Fire and Maneuver	3-24
	Section IV	Control Measures	3-29
	Section V	Movement to Contact	3-34
	Section VI	Daylight Attack	3-39
	Section VII	Rifle Platoon As Reserve of The Company In An Attack	3-51
	Section VIII	Limited Visibility Attack	3-52
	Section IX	Infiltration	3-62
CHAPTER 4.	DEFENSE		
		GENERAL	4-1
	Section I	How the Enemy Attacks	4-2
	Section II	Preparation For The Defense	4-5
	Section III	Control Measures	4-17
	Section IV	Defensive Positions, Front, And Depth	4-18
	Section V	Occupation And Preparation Of A Defensive Position	4-21
	Section VI	Conduct Of The Defense	4-25
	Section VII	Reserve Of A Forward Rifle Company	4-28
	Section VIII	Other Positioning Techniques	4-32
	Section IX	Withdrawal	4-38
	Section X	Delay	4-45

Name _____

1. What is the title of Chapter 3, Section VI?

(a) The Offense (c) Control Measures
(b) Daylight Attack (d) General

2. On what page would you learn about control measures for the defense?

(f) 3-1 (h) 4-1
(g) 3-29 (j) 4-17

Use the Index below to answer Questions 3-5.

	Paragraph	Page
Aiming bar (fig 4-3)		81
Aiming exercises	4-2	78
Aiming point	3-3	57
Ammunition:		
Care, cleaning	2-23	55
Classification	2-21	54
Packing	2-22	54
Types of (fig 2-57)		54
Appearance-of-objects method of measurement	6-8	98
Assembly of field stripped rifle	2-6	11
Automatic rifle marksmanship:		
Fire distribution:		
Concentrated	7-6	113
Distributed	7-6	113
Firing positions	7-3	110
Integrated act of shooting	7-2	109
Magazine changing	7-4	111
Qualification firing	7-10	117
Training, conduct of	7-7	115
Transition firing	7-9	115
Twenty-five meter firing	7-8	115
Automatic sear	fig 2-34	28
Battlesight zero target	4-9, 4-10	86
Bipod (fig 2-2)		7
Blank firing attachment (fig 2-28)	2-21	55, 54
Bolt (fig 2-6, 2-15)		9, 12
Bolt carrier (fig 2-10)		11
Buffer assembly (fig 2-16)		13

3. On what page can you read about the care and cleaning of ammunition?

(a) 55 (c) 3-3
(b) 2-21 (d) 2-23

4. How to conduct training for automatic rifle marksmanship is in Paragraph _____

(f) 113 (h) 7-7
(g) 7-6 (j) 115

 Name _____

5. Where would you read about the appearance-of-objects method of measurement?

(a) Paragraph 6-8
(b) Page 98
(c) Both
(d) Neither

Use the Table below to answer Questions 6 and 7.

DANGER MARKER	PRIMARY COLORS	SECONDARY COLORS	
		MARKINGS	INSCRIPTIONS
RADIOLOGICAL CONTAMINATION	WHITE	NONE	BLACK
BIOLOGICAL CONTAMINATION	BLUE	NONE	RED
CHEMICAL CONTAMINATION	YELLOW	NONE	RED
CHEMICAL MINEFIELDS	RED	WHITE STRIPE	YELLOW
BOOBYTRAPPED AREAS	RED	WHITE STRIPE	NONE
UNEXPLODED MUNITIONS	RED	WHITE (BOMB)	NONE

6. How many danger markers have red as their primary color?

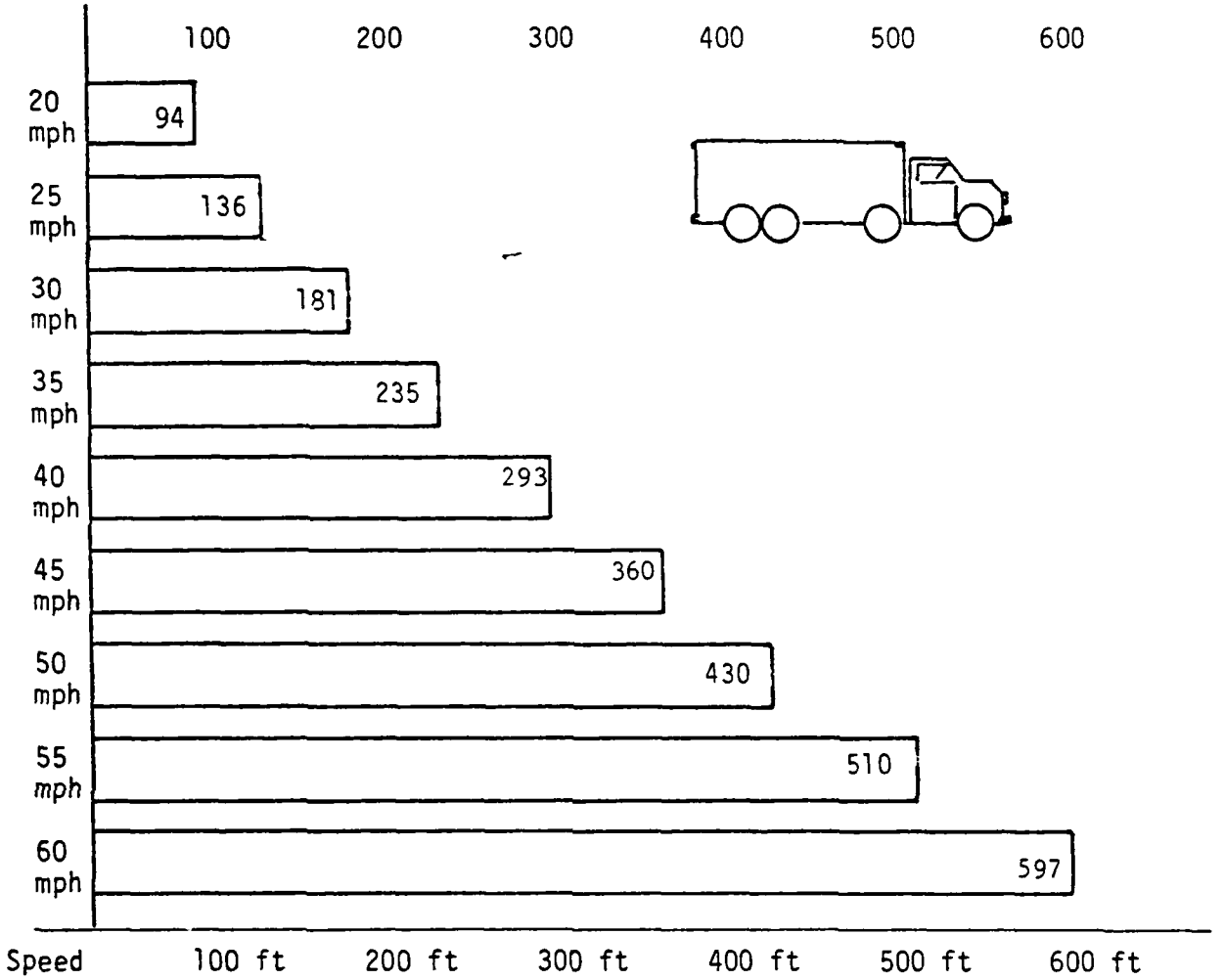
(f) None
(g) One
(h) Two
(j) Three

7. How do you tell the difference between a chemical minefield marker and a boobytrapped areas marker?

(a) The chemical minefield marker has a yellow inscription.
(b) The boobytrapped area marker is yellow.
(c) Only one has a white stripe.
(d) The boobytrapped area marker has a red inscription.

Use the bar graph (next page) to answer Questions 8 and 9.

Name _____



TOTAL DRIVER STOPPING DISTANCES FOR VEHICLES WITH A GROSS WEIGHT OF OVER 10,000 POUNDS (THREE AXLES OR MORE)

8. If a truck is traveling 45 mph, how long does it take to stop?

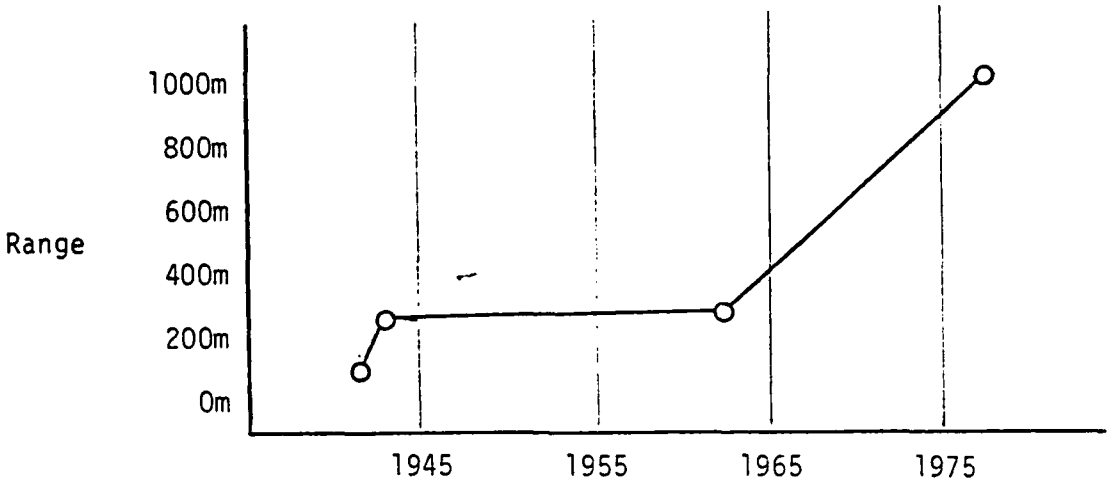
(f) 235 feet
(g) 360 feet
(h) 45 feet
(j) 510 feet

9. It took a three-axle truck 600 feet to stop. About how fast was it going?

(a) 60 mph
(b) 100 mph
(c) 55 mph
(d) 45 mph

Name _____

Use the line graph below to answer Questions 10 and 11.



TOP EFFECTIVE RANGE FOR INDIVIDUAL ANTI-TANK WEAPONS

10. How many meters of range did individual antitank weapons have in 1955?

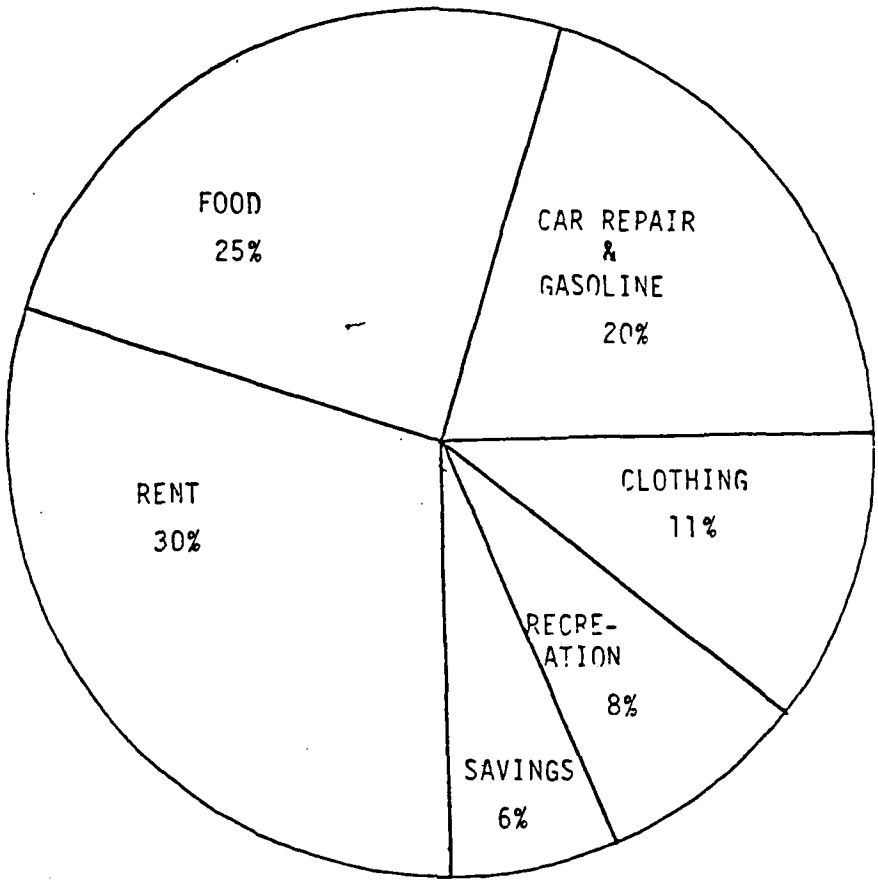
(f) 1000 m
(g) 400 m
(h) 300 m
(j) 200 m

11. What year had the lowest individual antitank weapon range?

(a) 1958
(b) 1945
(c) 1965
(d) 1943

Use the following pie graph to answer Questions 12 and 13.

Name _____



SGT CARTER'S EXPENSES FOR JUNE
(PERCENT OF SALARY)

12. How did SGT Carter spend the <u>smallest</u> amount of his pay?

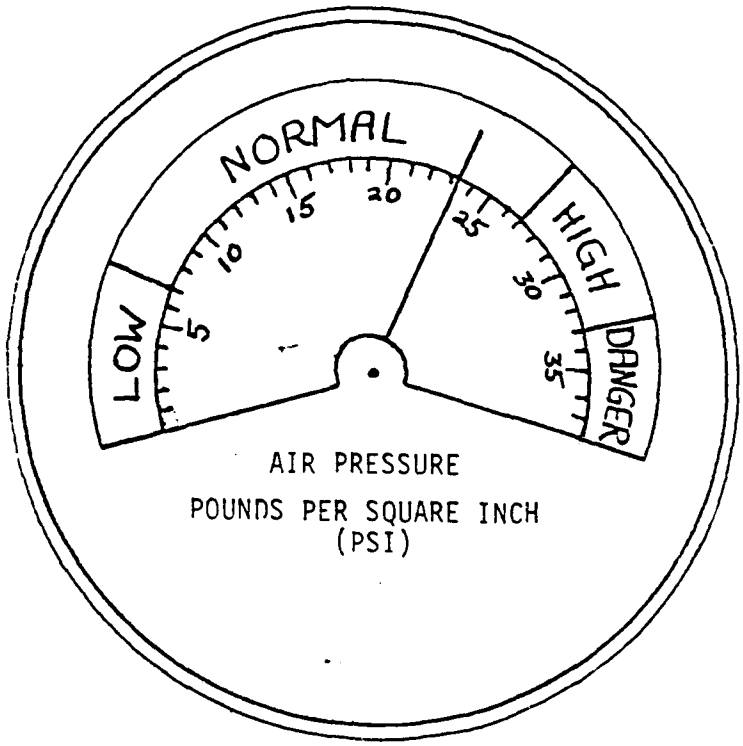
(f) On savings
(g) On recreation
(h) On rent
(j) On food

13. What percent of his salary did SGT Carter spend on clothing and recreation <u>combined</u>?

(a) 11%
(b) 19%
(c) 14%
(d) 8%

Use the dial to answer Questions 14 and 15.

Name _____



14. If the pointer shows 35 PSI, what zone is it in?

(f) Low (h) High
(g) Normal (j) Danger

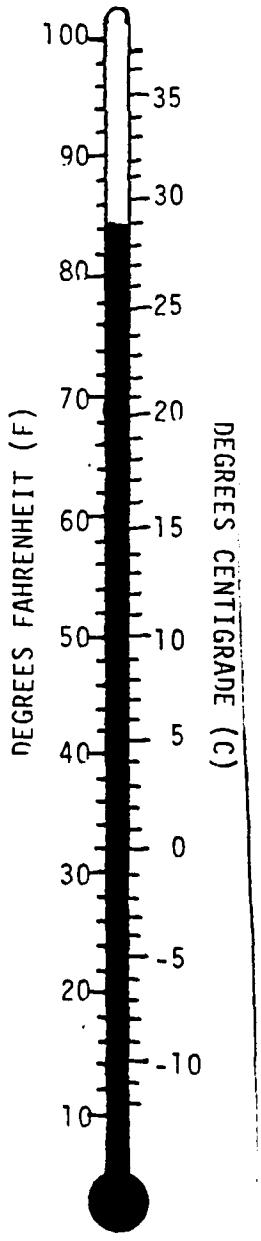
15. What is the normal range?

(a) From 0 to 7 PSI
(b) From 33 to 38 PSI
(c) From 7 to 27 PSI
(d) From 27 to 33 PSI

Use the meter (to the right) to answer Question 16.

16. What is the temperature in Centigrade?

(f) 29°C (h) 84°C
(b) 82°C (j) 28°F



ANSWER SHEET
MODULE PREVIEW
Locators and Visuals

1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0
10.	f	g	h	j
	0	0	0	0
11.	a	b	c	d
	0	0	0	0
12.	f	g	h	j
	0	0	0	0
13.	a	b	c	d
	0	0	0	0
14.	f	g	h	j
	0	0	0	0
15.	a	b	c	d
	0	0	0	0
16.	f	g	h	j
	0	0	0	0

ANSWER KEY/DIAGNOSTIC

MODULE PREVIEW OR REVIEW
Locators and Visuals

					IF WRONG, ASSIGN:
1.	a	b	c	d	1
	0	●	0	0	
2.	f	g	h	j	1
	0	0	0	●	
3.	a	b	c	d	2
	●	0	0	0	
4.	f	g	h	j	2
	0	0	●	0	
5.	a	b	c	d	2
	0	0	●	0	
6.	f	g	h	j	3
	0	0	0	●	
7.	a	b	c	d	3
	●	0	0	0	
8.	f	g	h	j	4
	0	●	0	0	
9.	a	b	c	d	4
	●	0	0	0	
10.	f	g	h	j	5
	0	0	●	0	
11.	a	b	c	d	5
	0	0	0	●	
12.	f	g	h	j	6
	●	0	0	0	
13.	a	b	c	d	6
	0	●	0	0	
14.	f	g	h	j	7
	0	0	0	●	
15.	a	b	c	d	7
	0	0	●	0	
16.	f	g	h	j	7
	●	0	0	0	

Name _____

MODULE RECORD SHEET

LOCATORS AND VISUALS

OBJECTIVE: Find page and paragraph numbers for subjects listed in tables of contents or indices. Answer questions about data by using tables and graphs.

SAMPLE TEST ITEMS:

TYPICAL U.S. CHEMICAL AGENTS AND THEIR EFFECTS

AGENT	WHAT IT LOOKS LIKE	HOW LONG IT STAYS IN TARGET AREA	EFFECT	TIME TO EFFECT
Nerve Agent "GB"	Vapor or Aerosol	A few minutes	Can kill unmasked troops	A few minutes if agent is inhaled
Nerve Agent "VX"	Liquid	A few hours to a week	Can kill troops. Contaminates terrain and equipment	A few hours
Blister Agent "HD"	Liquid	Usually a few days, possibly a few weeks	Incapacitates troops. Contaminates terrain and equipment	A few hours

1. How long does Nerve Agent "GB" stay in the target area?

(a) A few minutes
(b) A few hours
(c) A few days
(d) A few weeks

a	b	c	d
●	0	0	0

2. Which two agents look like a liquid?

(f) "GB" and "VX"
(g) "GB" and "HD"
(h) "VX" and "HD"
(j) None of them

f	g	h	j
0	0	●	0

Name _____

INTRODUCTION TO LOCATORS AND VISUALS:

Locators are tables of contents and indices. They tell you what is in a book or manual, and they show you how to find what you want. Visuals are tables, graphs, and meters. They show you a picture of certain kinds of facts, or data. In tables, the facts are arranged in columns and rows. In graphs, there may be bars or lines to show you how much of something you might have under different conditions. In meters and dials, a pointer usually tells you how much of something you have.

These activity sheets will show you how to get facts from locators and visuals. Work through all the activity sheets that have been circled. You can check your own work using the check sheets your teacher has shown you. If you have any questions, ask your teacher. When you are through with all the activity sheets and are sure you understand how to use locators and visuals, ask to take the Locators and Visuals Review.

ACTIVITY SHEETS (Do those that are circled).

1.	Table of Contents	1A	1B
2.	Index	2A	2B
3.	Tables	3A	3B
4.	Bar Graphs	4A	4B
5.	Line Graphs	5A	5B
6.	Pie Graphs	6A	6B
7.	Meters and Dials	7A	7B

Name _____

MODULE REVIEW
LOCATORS AND VISUALS

Instructions: Use the locators and visuals below to answer the questions. Mark your answers on the answer sheet.

Use the Table of Contents to answer Questions 1 and 2.

SOLDIER'S MANUAL OF COMMON TASKS
SKILL LEVEL 1

TABLE OF CONTENTS

		Page
INTRODUCTION		vii
COMMON TASKS:		
I. SEE		
071-331-0803	Collect/Report Information (SALUTE).....	1
071-331-0814	Identify Friendly and Threat (OPFOR) Armored Vehicles	3
441-091-1040	Visually Identify Potential Threat Aircraft	25
071-326-0512	Estimate Range	29
II. COMMUNICATE		
113-571-1016	Send a Radio Message	37
III. NAVIGATE		
071-329-1001	Identify Terrain Features (Natural and Man-Made) on a Map	41
071-329-1002	Determine the Grid Coordinates of a Point on a Military Map Using the Military Grid Reference System	45
071-329-1003	Determine a Magnetic Azimuth Using a Compass.....	53
071-329-1018	Determine Direction Using Field Expedient Methods	57
IV. SHOOT		
	M16A RIFLE	
071-311-2001	Perform Operator Maintenance on an M16A1 Rifle, Magazine, and Ammunition	61
071-311-2003	Load, Reduce a Stoppage, and Clear an M16A1 Rifle	75

Module Review
Locators and Visuals

Name _____

1. Which chapter starts on page 37?

(a) I. See
(b) II. Communicate
(c) III. Navigate
(d) IV. Shoot

2. On what page would you find Task #071-329-1003?

(f) 41
(g) 57
(h) 45
(j) 53

Use the Index below to answer Questions 3-5.

	Paragraph	Page
Joint airborne operations	8–2	8–1
Judge advocate section	3–4*b*(14), 3–12*b*	3–3, 3–4
Liaison section	2–4	2–6
Light infantry brigade capabilities	1–12	1–4
Line formation	5–7*e*	5–4
Linkup operations	8–5—8–7	8–4
Logistics officer. (*See* S4.)		
Low-visibility attack. (*See* Night combat.)		
Main attack	5–7*b*	5–4
Maintenance company	3–12*d*	3–4
Maintenance officer	3–12*d*	3–4
Maneuver units. (*See also* Combat unit and specific type.)	1–2*a*	1–1
Mechanized brigade capabilities	1–9	1–4
Medical	2–2*k*, 4–27*a*(2)	2–4, 4–14
Meeting engagement	5–14	5–8
Messenger	2–2*j*	2–4
Military intelligence	4–1*c*	4–1
Military police	3–11, 4–1*a*, 4–25	3–4, 4–1, 4–14
Mobile defense	6–18—6–21	6–11
Mobility	1–14	1–4
Movement to contact	5–13, 5–14	5–8
Naval gunfire	4–1*c*, 4–2*b*, 4–9*d*	4–1, 4–8
Night:		
Attack. (*See* Night combat.)		
Combat	5–43—5–45	5–20
Defense	6–26	6–14
Non-air defense weapons	4–10*e*	4–10
Nondivisional brigade. (*See* Brigade, separate.)		
Nonnuclear warfare	1–2*c*, 4–3	1–1, 4–1
Nuclear:		
Fires	4–4, 4–5	4–2
Warfare	1–2*e*	1–1
Weapons	4–5, 7–3*e*	4–2, 7–2
Objectives	5–5	5–3
Offense. (*See also* Attack *and specific aspect.*):		
Combat service support	5–12	5–8
Conduct	5–15—5–19	5–9
Control measures	5–10	5–7
Fire planning	5–9	5–9

Name _____

3. To find out about liaison officers, look on Page _____

(a) 2-6 (c) 3-4b(14), 3-12b
(b) 2-4 (d) 1-12

4. Combat at night is shown in Paragraph _____

(f) 6-26 (h) 5-43----5-45
(g) 4-10e (j) 5-20

5. Fire planning for the offense is discussed on Page _____

(a) 4-1, 4-8 (c) 5-9
(b) 4-4, 4-5 (d) 4-2

Use the Table below to answer Questions 6 and 7.

TABLE 1. FIRING ANTITANK WEAPONS FROM BUILDINGS AND ENCLOSED AREAS

WEAPON	MIN ROOM SIZE, FRAME STRUCTURE	MIN ROOM SIZE, MASONRY STRUCTURE	MIN VENT SIZE*
LAW	7' x 10'	Min of 4' to back wall	20 Ft^2
DRAGON	15' x 15'	17' x 11'	20 Ft^2
TOW	20' x 30'	20' x 20'	20 Ft^2
All glass should be removed from windows, doors and within rooms. Soft furniture and curtains should be left to absorb sound. Firers must wear helmets and ear plugs. Don't stand behind weapons being fired. *Open door and window space.			

6. Which weapon has a minimum masonry structure room size of 20' x 20'?

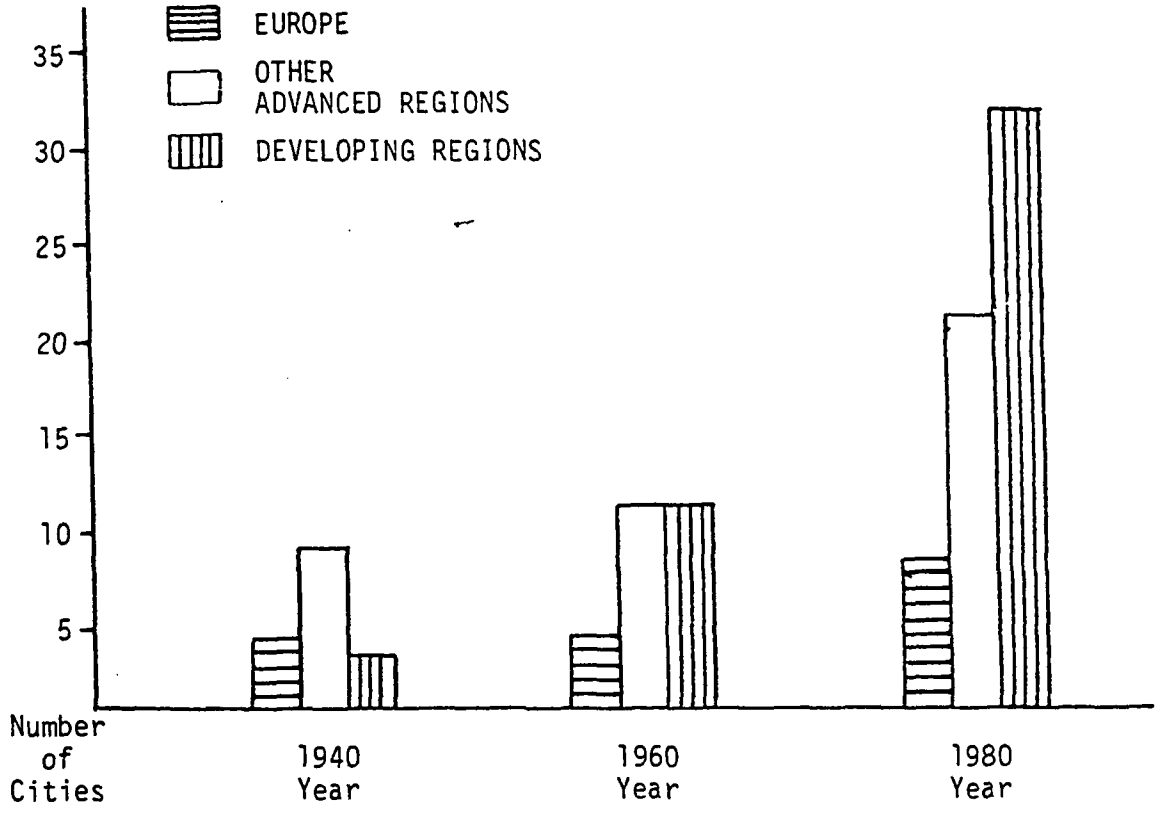
(f) All of them (h) DRAGON
(g) LAW (j) TOW

7. Which weapons have a minimum vent size of 20 ft^2?

(a) All of them (c) TOW and LAW
(b) LAW and DRAGON (d) DRAGON only

Name _____

Use the bar graph below to answer Questions 8 and 9.



NUMBER OF CITIES WITH MORE THAN 2.5 MILLION PEOPLE

8. In 1980, how many European cities had more than 2.5 million people?

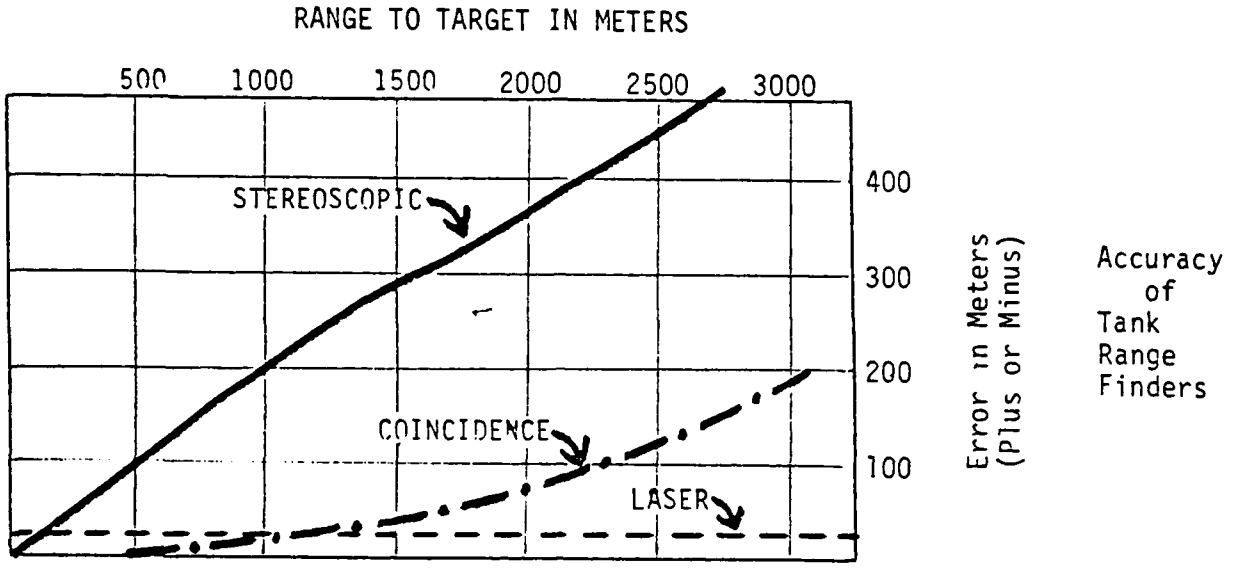
(f) 21 (h) 32
(g) 9 (j) 4

9. In what year did two regions have the same number of large cities?

(a) 1960 (c) 1980
(b) 1940 (d) No year

Use the following line graph to answer Questions 10 and 11.

Name _____



10. What is the error (plus or minus) of a stereoscopic range finder at 1000 meters?

(f) 20 meters
(g) 300 meters
(h) 200 meters
(j) 100 meters

11. This graph tells you:

(a) Stereoscopic range finders are less accurate than coincidence range finders.

(b) Laser range finders are very accurate at any range.

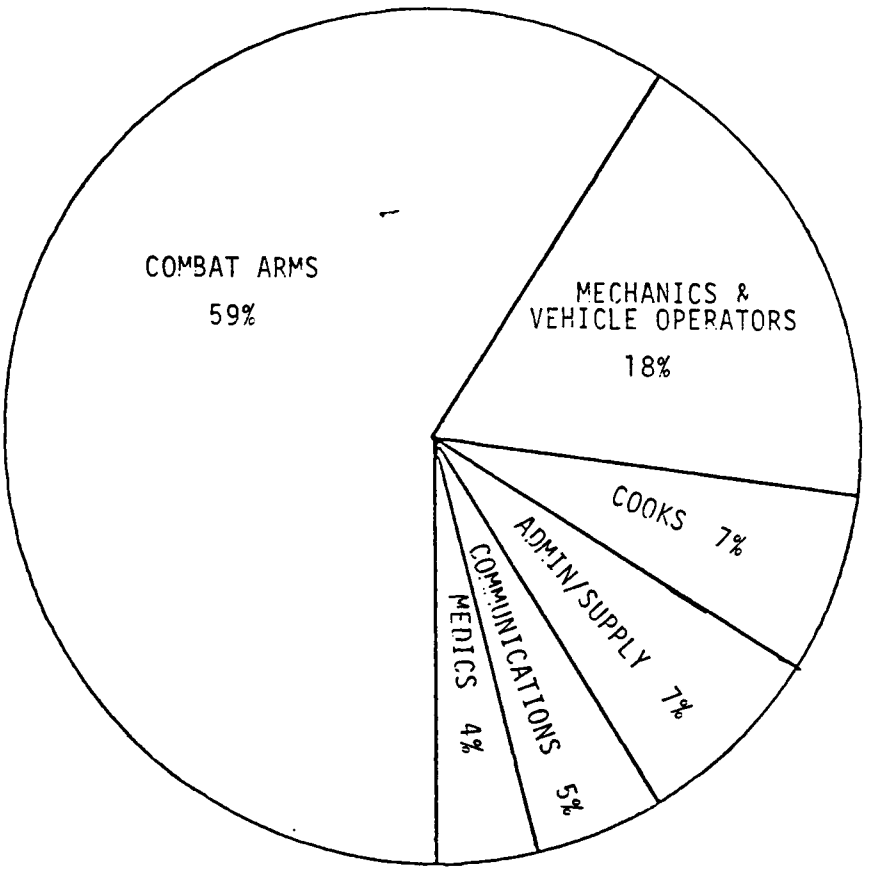
(c) Below 1000 meters, coincidence range finders are a little bit more accurate than laser range finders.

(d) All of the above.

Use the pie graph to answer Questions 12 and 13.

Module Review
Locators and Visuals

Name _____



Percentage of Different Types of MOSs, for MOSs with More than 100 Individuals, Fort Ord, 1981

12. What percentage of soldiers at Fort Ord are <u>not</u> in combat arms MOSs?

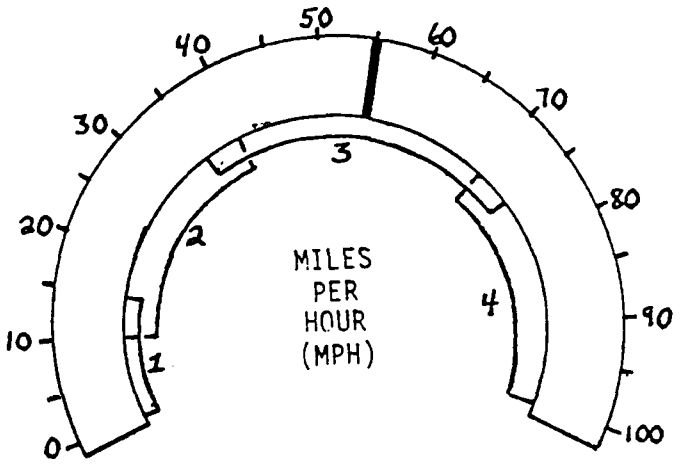
(f) 41% (h) 23%
(g) 59% (j) 18%

13. What is the smallest MOS group?

(a) Admin/Supply (c) Combat Arms
(b) Medics (d) Communications

Name _____

Use the meter below to answer Questions 14-16.



14. If the car were traveling at 38 mph, what gear should it be in?

(f) Third
(g) Second
(h) First or second
(j) Second or third

15. How slowly should you be going before you downshift from 4th to 3rd?

(a) 70 mph
(b) 30 to 35 mph
(c) Between 70 and 75 mph
(d) 80 mph

16. How fast is this car going right now?

(f) 55 mph
(g) 50 mph
(h) 60 mph
(j) 3 mph

ANSWER SHEET
MODULE REVIEW
Locators and Visuals

Name _____

1.	a	b	c	d	9.	a	b	c	d
	0	0	0	0		0	0	0	0
2.	f	g	h	j	10.	f	g	h	j
	0	0	0	0		0	0	0	0
3.	a	b	c	d	11.	a	b	c	d
	0	0	0	0		0	0	0	0
4.	f	g	h	j	12.	f	g	h	j
	0	0	0	0		0	0	0	0
5.	a	b	c	d	13.	a	b	c	d
	0	0	0	0		0	0	0	0
6.	f	g	h	j	14.	f	g	h	j
	0	0	0	0		0	0	0	0
7.	a	b	c	d	15.	a	b	c	d
	0	0	0	0		0	0	0	0
8.	f	g	h	j	16.	f	g	h	j
	0	0	0	0		0	0	0	0

Locators and Visuals
Activity Sheet 1A
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Name _____

The table of contents of a book or manual tells you what is in the manual. It is arranged consecutively. That is, it tells you what is in the first chapter or section, then the second chapter or section, and so on to the end of the book.

Usually, the table of contents is written in outline form. Big subject areas like chapters are written at the left hand edge of the subject column. Smaller subject areas are indented (set in) to the right. In the right hand column, you will see the page number where you can find information about the subject. Sometimes you will find a paragraph number, too. It may be written in either the right hand or the left hand column.

Here is a part of a Table of Contents from a Skill Qualification Test (SQT) Notice for 11B Infantrymen. Notice that it tells you the major subject areas. For example, you will find "Component Descriptions" in Paragraph 5 on Page 4.

TABLE OF CONTENTS

PARAGRAPH	TITLE	PAGE
1	PURPOSE	1
2	SQT DESCRIPTION	1
3	SQT PREPARATION	2
4	TRACKING	3
5	COMPONENT DESCRIPTIONS	4
6	THE EXPERT INFANTRYMAN BADGE (EIB) TEST	6

Sometimes the table of contents gives you extra information. Look at the following example. It is another part of the Table of Contents from the 11B SQT notice:

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APPENDIX B - PRACTICE HOC (SCORESHEETS FOR HANDS-ON TEST AND ALTERNATE TESTS)

	TITLE	PAGE	SM REFERENCE
(1)	031-503-1002, Put On and Wear an M17-Series Protective Mask	B-3	FM 21-2 (May 81)
(2)	081-831-1002, Perform Cardiopulmonary Resuscitation (CPR) on an Adult Using the One-Man Method	B-7	FM 21-2 (May 81)
(3)	031-503-1010, Replace the Filters in an M17-Series Protective Mask	B-13	FM 21-2 (May 81)
(4)	071-318-2201, Prepare an M72A2 LAW for Firing; Restore M72A2 LAW to Carrying Configuration	B-17	FM 21-2 (May 81)
(5)	051-192-1502, Install and Fire/Recover an M18A1 Claymore Mine	B-21	FM 21-2 (May 81)
(6)	051-192-1022, Locate Mines by Probing	B-27	FM 7-11B1/2 (Jul 78)
(7)	071-326-0600, Use Visual Signals to Control Movement (Dismounted)	B-31	FM 7-11B1/2 (Jul 78)
(8)	051-192-1008, Install the M21 Metallic Antitank (AT) Mine	B-35	FM 7-11B1/2 (Jul 78)
(9)	051-192-1018, Disarm the M21 Metallic Antitank (AT) Mine	B-39	FM 7-11B1/2 (Jul 78)
(10)	071-325-4402, Engage Enemy Targets with Hand Grenades	B-43	FM 21-2 (May 81)
(11)	051-192-1002, Install the M16A1 Bounding Antipersonnel Mine (with/without Tripwire)	B-47	FM 7-11B1/2 (Jul 78)
(12)	071-329-1003, Determine a Magnetic Azimuth Using a Compass	B-51	FM 21-2 (May 81)

This table of contents tells you what is in Appendix B of the SQT notice. Each task is listed, followed by the page number. You will also find a "SM Reference." This tells you which SM (Soldier's Manual) will tell you more about the task. For instance, you can find the Practice Hands-On Component for Preparing an M72A2 LAW for Firing on Page B-17. You also see that FM 21-2 published in May 1981 will tell you more about the task.

Instructions: Use the following Table of Contents to answer Questions 1-4. Mark the letter of the correct answer on your answer sheet.

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Name _____

THE INFANTRY PLATOON AND SQUAD
(INFANTRY, AIRBORNE, AIR ASSAULT, RANGER)

CONTENTS

			PAGE
PREFACE			iv
CHAPTER 1.	THE BATTLEFIELD		
		GENERAL	1-1
	Section I	The Enemy	1-2
	Section II	The US Forces	1-15
CHAPTER 2.	PREPARATION FOR COMBAT		
		GENERAL	2-1
	Section I	Steps of the Troop Leading Procedure	2-2
CHAPTER 3.	THE OFFENSE		
		GENERAL	3-1
	Section I	How the Enemy Defends	3-2
	Section II	Movement	3-10
	Section III	Fire and Maneuver	3-24
	Section IV	Control Measures	3-29
	Section V	Movement to Contact	3-34
	Section VI	Daylight Attack	3-39
	Section VII	Rifle Platoon As Reserve of The Company In An Attack	3-51
	Section VIII	Limited Visibility Attack	3-52
	Section IX	Infiltration	3-62
CHAPTER 4.	DEFENSE		
		GENERAL	4-1
	Section I	How the Enemy Attacks	4-2
	Section II	Preparation For The Defense	4-5
	Section III	Control Measures	4-17
	Section IV	Defensive Positions, Front, And Depth	4-18
	Section V	Occupation And Preparation Of A Defensive Position	4-21
	Section VI	Conduct Of The Defense	4-25
	Section VII	Reserve Of A Forward Rifle Company	4-28
	Section VIII	Other Positioning Techniques	4-32
	Section IX	Withdrawal	4-38
	Section X	Delay	4-45
CHAPTER 5.	PATROLLING		
		GENERAL	5-1
	Section I	Preparation For A Patrol	5-8
	Section II	Common Patrolling Tasks	5-17
	Section III	Reconnaissance Patrol	5-27
	Section IV	Combat Patrol	5-31
	Section V	Patrol Bases	5-48

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APPENDIXES	Page
A. REFERENCES	A-1
B. COVER, CONCEALMENT, AND CAMOUFLAGE	B-1
C. WEAPONS	C-1
D. PREPARATION OF FIGHTING POSITIONS	D-1
E. HOW TO GET THE FIRE OF NONORGANIC SUPPORTING WEAPONS ON TARGET	E-1

1. "Defense" begins on page

   (a) 3-1 (c) 4-1
   (b) 4-2 (d) iv

2. Section II: Movement is in Chapter:

   (f) 1 (h) 3
   (g) 2 (j) 4

3. Which Section begins on Page 4-17?

   (a) Control Measures (c) References
   (b) Common Patrolling Tasks (d) Defense

4. Page 3-26 is in:

   (f) Appendix B (h) Chapter 2: Preparation for Combat
   (g) Chapter 3, Section III: Fire and Maneuver (j) Section IX: Infiltration

Use the Table of Contents on the following page to answer Questions 5-8.

Name _____

APPENDIX A - PRACTICE SC (INSTRUCTIONS, SAMPLE QUESTIONS, AND ANSWER SHEET)

	Task Number and Title	Page	SM Reference
(1)	031-503-1009, Drink, Use the Latrine, and Sleep While Wearing Protective Clothing	A-5	FM 21-2 (May 81)
(2)	031-503-1005, React to a Nuclear Hazard	A-6	FM 7-11B1/2 (Jul 78)
(3)	071-326-5703, Construct Individual Fighting Positions	A-7	FM 7-11B1/2 (Jul 78)
(4)	071-329-1002, Determine the Grid Coordinates of a Point on a Military Map Using the Military Grid Reference System	A-8	FM 21-2 (May 81)
(5)	071-318-2202, Engage Targets with an M72A2 LAW	A-9	FM 21-2 (May 81)

5. On what page would you find the practice SC for nuclear hazards?

(a) A-5 (c) A-7
(b) A-6 (d) A-8

6. In which Soldier's Manual would you find more information about constructing individual fighting positions?

(f) FM 21-2 (h) A-7
(g) A-9 (j) FM 7-11B1/2

7. Which page has the practice SC for Task #071-318-2202?

(a) FM 21-2 (c) A-9
(b) A-5 (d) A-8

8. What task is discussed on Page A-5?

(f) FM 21-2 (h) Engage Targets With An M72ALAW
(g) Task 031-503-1005 (j) Drink, Use Latrine, and Sleep While Wearing Protective Clothing

Use the Table of Contents on the following page to answer Questions 9-12.

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Name _____

SOLDIER'S MANUAL OF COMMON TASKS
SKILL LEVEL 1

TABLE OF CONTENTS

		Page
INTRODUCTION		vii
COMMON TASKS:		
I. SEE		
071-331-0803	Collect/Report Information (SALUTE)	1
071-331-0814	Identify Friendly and Threat (OPFOR) Armored Vehicles	3
441-091-1040	Visually Identify Potential Threat Aircraft	25
071-326-0512	Estimate Range	29
II. COMMUNICATE		
113-571-1016	Send a Radio Message	37
III. NAVIGATE		
071-329-1001	Identify Terrain Features (Natural and Man-Made) on a Map	41
071-329-1002	Determine the Grid Coordinates of a Point on a Military Map Using the Military Grid Reference System	45
071-329-1003	Determine a Magnetic Azimuth Using a Compass	53
071-329-1018	Determine Direction Using Field Expedient Methods	57
IV. SHOOT		
	M16A RIFLE	
071-311-2001	Perform Operator Maintenance on an M16A1 Rifle, Magazine, and Ammunition	61
071-311-2003	Load, Reduce a Stoppage, and Clear an M16A1 Rifle	75

9. Which section begins on Page 41?

(a) See
(b) Communicate
(c) Navigate
(d) Shoot

Name _____

10. Which task is discussed on Page 55?

(f) Navigate
(g) Determine a Magnetic Azimuth Using a Compass
(h) Determine Direction Using Field Expedient Methods
(j) 071-329-1001

11. What is the number of the task that begins on Page 37?

(a) II
(b) 441-091-1040
(c) 071-329-1018
(d) 113-571-1016

12. "Estimate Range" begins on Page

(f) 29
(g) 25
(h) I
(j) II

ANSWER SHEET
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Name _____

1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0
10.	f	g	h	j
	0	0	0	0
11.	a	b	c	d
	0	0	0	0
12.	f	g	h	j
	0	0	0	0

Locators and Visuals
Activity Sheet 2A
Index

Name _____

An index is like a table of contents. It tells you what is in a book or manual. A table of contents is a listing in order, page by page, but an index lists subjects in alphabetical order.

The index has main topics and subtopics. If you want to find a subject in the index, look for the main topic of what you want to find. For instance, look at this part of an index:

	Paragraph	Page
Aiming bar (fig 4-3)		81
Aiming exercises	4-2	78
Aiming point	3-3	57
Ammunition:		
Care, cleaning	2-23	55
Classification	2-21	54
Packing	2-22	54
Types of (fig 2-57)		54
Appearance-of-objects method of measurement	6-8	98
Assembly of field stripped rifle	2-6	11
Automatic rifle marksmanship:		
Fire distribution:		
Concentrated	7-6	113
Distributed	7-6	113
Firing positions	7-3	110
Integrated act of shooting	7-2	109
Magazine changing	7-4	111
Qualification firing	7-10	117
Training, conduct of	7-7	115
Transition firing	7-9	115
Twenty-five meter firing	7-8	115
Automatic sear	fig 2-34	28
Battlesight zero target	4-9, 4-10	86
Bipod (fig 2-2)		7
Blank firing attachment (fig 2-28)	2-21	55, 54
Bolt (fig 2-6, 2-15)		9, 12
Bolt carrier (fig 2-10)		11
Buffer assembly (fig 2-16)		13

Let's say you want to know about cleaning ammunition. Ammunition is your main topic, not cleaning. So you look for "ammunition" in the index. Under Ammunition you will find care, cleaning, paragraph 2-23, page 55.

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Index

Name _____

Instructions: Answer Questions 1-4 by using the part of an index shown below. Mark the correct answer on your Answer Sheet.

	Paragraph	Page
Subsequent	24	37
Data, map, auxiliary	39	58
Designating location of target	19	29
Determination of direction	18	27
Deviation spottings	12	17
Direction and distribution, area fire.	27	39
Direction, determination	18	27
Direction shift, computing	8, 11	13, 17
Distance	10, 11	16, 17
End of mission	7	8
Errors, correction	25	38
Estimation of lateral distance	11	17
Field artillery gunnery team	5	6
Fire:		
Adjusting principles	31	50
Area, general	26	39
Close to friendly troops	13, 34	23, 52
Conduct, general	6	8
Control	23, 35	36, 52
For effect:	32	50
Order, from fire direction officer to observer.	23	36
Requesting	14, 20	24, 34
Ricochet	28	40
Fire direction center	5	6
Forward slope observation post	37	53
Fuze, selection	28	40
Grid	19	29
Hints for observers	app B	69
Information sent to observer	23	36
Initial range change	13	23
Lateral distance	11	17
Lost rounds	7, 33	8, 51
Map data, augmentation	39	58
Marking rounds	19	29
Measuring angles	8, 11	13, 17
Mil relation	8	13
Nature of target	20	34

	Paragraph	Page
Nonartillery observers	36, 38, 40	53, 57, 61
Numbers, announcement	9	15
Observation	36	53
Observation post	37	53
Observer:		
Communications	3, 40	3, 61
Information sent	23	36
Nonartillery	36	53
Notes	app B	69
Reports	38	57
Observer-target distance	10, 14	16, 24
Observer-target line	14, 31	24, 50
Obtaining artillery fire	3	3
Order:		
Fire, from fire direction officer to observer.	23	36
Warning	17	27
Phonetic alphabet	41	63
Polar coordinates	18, 19	27, 29
Procedures, communication	40	61
Radio communications	40	61
Range:		
Bounds	13	23
Change	27	39
Correction	19, 25	29, 38
Estimation	10, 11	16, 17
Spotting	12	17
Record of adjustment	app B	69
References	app A	67
Relation, mil	8	13
Repeat	29	42
Reports of observers	29, 38	42, 57
Requesting fires:		
Ammunition and fuze action	22	34
Call for fire	15	25
Control	22	34
Description of target	3, 20	3, 34
Identification of observer	16	27
Location of target	19	29

1. Information about nonartillery observers is on page

(a) 3, 40 (c) 53
(b) 36 (d) 23

2. Information about distance is in paragraphs

(f) 10, 11 (h) 16, 17
(g) 8, 11 (j) 27

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Index

Name _____

3. Information about marking rounds is on page

(a) 19 (c) 39
(b) 8, 11 (d) 29

4. Information about the general conduct of fire is in paragraph

(f) 31 (h) 8
(g) 6 (j) 23, 52

Use the part of an index below to answer Questions 5-8:

Joint airborne operations	8-2	8-1
Judge advocate section	3-4*b*(14), 3-12*b*	3-3, 3-4
Liaison section	2-4	2-6
Light infantry brigade capabilities	1-12	1-4
Line formation	5-7*e*	5-4
Linkup operations	8-5—8-7	8-4
Logistics officer. (*See* S4.)		
Low-visibility attack. (*See* Night combat.)		
Main attack	5-7*b*	5-4
Maintenance company	3-12*d*	3-4
Maintenance officer	3-12*d*	3-4
Maneuver units. (*See also* Combat unit and specific type.)	1-2*a*	1-1
Mechanized brigade capabilities	1-9	1-4
Medical	2-2*k*, 4-27*a*(2)	2-4, 4-14
Meeting engagement	5-14	5-8
Messenger	2-2*j*	2-4
Military intelligence	4-1*c*	4-1
Military police	3-11, 4-1*a*, 4-25	3-4, 4-1, 4-14
Mobile defense	6-18—6-21	6-11
Mobility	1-14	1-4
Movement to contact	5-13, 5-14	5-8
Naval gunfire	4-1*c*, 4-2*b*, 4-9*d*	4-1, 4-8
Night:		
Attack. (*See* Night combat.)		
Combat	5-43—5-45	5-20
Defense	6-26	6-14
Non-air defense weapons	4-10*e*	4-10
Nondivisional brigade. (*See* Brigade, separate.)		
Nonnuclear warfare	1-2*c*, 4-3	1-1, 4-1
Nuclear:		
Fires	4-4, 4-5	4-2
Warfare	1-2*c*	1-1
Weapons	4-5, 7-3*e*	4-2, 7-2
Objectives	5-5	5-3
Offense. (*See also* Attack *and specific aspect.*):		
Combat service support	5-12	5-8
Conduct	5-15—5-19	5-9
Control measures	5-10	5-7
Fire planning	5-9	5-9

Locators and Visuals
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Name _____

5. To find out about nuclear weapons, look on Pages

(a) 4-5, 7-3e
(b) 4-2, 7-2
(c) 4-5, 7-3e, 4-2, 7-2
(d) 1-2c

6. Conduct of the offense is shown in paragraphs

(f) 5-9
(g) 5-10, 5-7
(h) 5-15-5-19
(j) 5-12

7. Low-visibility attack is discussed on page

(a) 5-4
(b) 5-43-5-45
(c) 5-7b
(d) 5-20

8. One place to read about maneuver units is paragraph

(f) 3-12d
(g) 1-9
(h) 1-2a
(j) 1-1

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Name _____

Use the partial index below to answer Questions 9-12:

	Paragraph	Page
Steady hold factors	3-3	57
Shot group:		
Analysis	3-8	71
Template (fig 4-8)		85
Sight alinement (fig 3-2, 3-3, 3-4)	3-3	58, 59, 57
Sight picture (fig 3-1)	3-3	58, 57
Sight picture / alinement	3-3	57
Sights, rifle (fig 4-5, 4-6, 4-7)		83, 84,
	4-2, 4-4	78, 83,
	4-6	84
Stoppage	2-16	42
Stoppage, reduction of	5-4	88
Takedown pin (fig 2-8)		10
Target box (fig 4-4)		82
Target, 25-meter (fig 4-2)		80
Target detection:		
Conduct of trials:		
Moving targets	6-11	105
Multiple moving / sound targets	6-11	105
Sound targets	6-11	105
Stationary targets	6-11	105
Engaging targets	6-9	103
Expedient training area	6-5	95
Fundamentals of:		
Determining range	6-8	98
Locating targets	6-8	98
Marking targets	6-8	98
Range:		
Construction	6-4	94
Location	6-3	94
Target detection exercise	app D	155
Target detection tests	6-12	106
Training concepts	6-2	94
Trial sheets	6-10	104
Training conditions	1-3	3
Training, conduct of	4-2	78
Training, exercises	4-2	78
Trajectory (fig 4-9)		86
Trigger finger, position of (fig 3-11, 3-5)		65, 60
Windage	4-5	83
Wobble area	3-5	71
Zeroing, principles of	4-8, 4-9	85, 86

9. Information about reducing stoppages is on page

(a) 2-16
(b) 42
(c) 5-4
(d) 88

Name _____

10. The use of sound targets in the conduct of trials for target detection is shown in paragraph

(f) 6-11
(g) 105
(h) 6-9
(j) 4-2

11. Information on the principles of zeroing can be found in paragraphs

(a) 4-8, 4-9
(b) 3-3
(c) 85, 86
(d) 3-8

12. Information about constructing target detection ranges is on page

(f) 105
(g) 155
(h) 94
(j) 78

ANSWER SHEET
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Name _____

1.	a	b	c	d		7.	a	b	c	d
	0	0	0	0			0	0	0	0
2.	f	g	h	j		8.	f	g	h	j
	0	0	0	0			0	0	0	0
3.	a	b	c	d		9.	a	b	c	d
	0	0	0	0			0	0	0	0
4.	f	g	h	j		10.	f	g	h	j
	0	0	0	0			0	0	0	0
5.	a	b	c	d		11.	a	b	c	d
	0	0	0	0			0	0	0	0
6.	f	g	h	j		12.	f	g	h	j
	0	0	0	0			0	0	0	0

Locators and Visuals
Activity Sheet 3A
Tables

Name _____

In manuals and books, tables are drawings or charts that give you data or facts about things. Tables always have two dimensions: they have columns and rows. Here is a simple table. It shows the primary and secondary colors used to mark different kinds of contaminated or dangerous areas.

COLUMN NAMES

DANGER	PRIMARY COLORS	SECONDARY COLORS	
		MARKINGS	INSCRIPTIONS
RADIOLOGICAL CONTAMINATION	WHITE	NONE	BLACK
BIOLOGICAL CONTAMINATION	BLUE	NONE	RED
CHEMICAL CONTAMINATION	YELLOW	NONE	RED
CHEMICAL MINEFIELDS	RED	WHITE STRIPE	YELLOW
BOOBYTRAPPED AREAS	RED	WHITE STRIPE	NONE
UNEXPLODED MUNITIONS	RED	WHITE (BOMB)	NONE

ROWS

The columns are named at the top. The rows are named at the side. If you want to find out about the markings on signs for boobytrapped areas, do this:

(1) Find the row marked "Boobytrapped Areas." The name of the row is at the left.

(2) Stay in that row, but move to the right until you get to the column named "Markings". Then read that the markings on signs for boobytrapped areas consist of a white stripe.

You could also do it backwards. Find the column named "Markings," then go down to the row named "Boobytrapped Areas." Either way, you are looking for where the column and the row meet.

Sometimes the rows and columns have names which are not written down. You can group the things in a row or column under other names than the name on the table. For instance, in the table above, you could give a name to all the things that tell you about a danger sign. You could call them identifiers. So for a sign showing biological contamination, the identifiers are blue primary color, no markings, and red inscription.

Locators and Visuals
Activity Sheet 3A
Tables

Name _____

Instructions: Look at the tables below. Then answer the questions under each table. Mark your answers on the Answer Sheet.

Use the table below to answer Questions 1-4.

TABLE 1. RESULTS OF RADIATION EXPOSURE

Radiation Dose in Rads	Early Symptoms	Work Effectiveness	Fatalities
0 to 70	Less than 5% hospitalization.	Full	None
150	Approximately 5% within 6 hours.	Reduced effectiveness while vomiting, depending on task. Ineffective if hospitalized.	None
650	Within 2 hours	Symptoms continue intermittently for next few days. Effectiveness reduced significantly for 2d to 6th day. Hospitalization required.	More than half at approximately 16 days.
2,000 to 3,000	Within 5 minutes	Immediate, temporary incapacitation for a period of 3-40 minutes, followed by recovery period during which personnel efficiency is impaired.	High rate. In approximately 7 days.
8,000	Within 5 minutes	Immediately, permanent incapacitation for personnel performing physically demanding tasks. No period of latent "recovery".	High rate in 1-2 days.
18,000	Immediate	Permanent incapacitation for personnel performing even undemanding tasks.	100% Within 24 hours.

Name _____

1. In which column can you find the reading "Within 2 hours"?

   (a) Work Effectiveness
   (b) Fatalities
   (c) Early Symptoms
   (d) 8,000

2. What is the fatality rate for people exposed to 0 to 70 rads?

   (f) 100%
   (g) None
   (h) High rate
   (j) More than half

3. If a group of soldiers shows symptoms within 5 minutes, what is the the fatality rate?

   (a) High rate
   (b) 100%
   (c) 50%
   (d) None

4. "Immediate, temporary incapacitation" is the work effectiveness problem for what dose in rads?

   (f) 650
   (g) 18,000
   (h) 8,000
   (j) 2,000 to 3,000

Use the table below to answer Questions 5-8:

TABLE 2. FIRING ANTITANK WEAPONS FROM BUILDINGS AND ENCLOSED AREAS

WEAPON	MIN ROOM SIZE, FRAME STRUCTURE	MIN ROOM SIZE, MASONRY STRUCTURE	MIN VENT SIZE*
LAW	7' x 10'	Min of 4' to back wall	20 Ft^2
DRAGON	15' x 15'	17' x 11'	20 Ft^2
TOW	20' x 30'	20' x 20'	20 Ft^2
All glass should be removed from windows, doors and within rooms. Soft furniture and curtains should be left to absorb sound. Firers must wear helmets and ear plugs. Don't stand behind weapons being fired. *Open door and window space.			

5. What is the minimum size of room from which you can fire the DRAGON if the room is made of masonry?

   (a) 7' x 10'
   (b) 17' x 11'
   (c) 20' x 20'
   (d) 20 Ft^2

Name _____

6. The sizes of frame structures you need for the three different weapons make up the frame range. 15' x 15' is one measurement in the frame range. What are the other two measurements?

(f) 7' x 10', 20 Ft^2
(g) 17' x 11', 20 Ft^2
(h) DRAGON, 17' x 11'
(j) 7' x 10', 20' x 30'

7. Which weapons have a minimum vent size of 20 Ft^2?

(a) LAW and DRAGON
(b) TOW and LAW
(c) All three weapons
(d) DRAGON only

8. How many sizes of frame structures are shown?

(f) 3
(g) 17' x 11'
(h) 4
(j) 2

Use the table below to answer Questions 9-12.

RESPONSIBILITY FOR DIRECTION AND COORDINATION	AD UNITS	BRIGADE	DIVISION	CORPS	AIR FORCE
COUNTERFIRE PROGRAM			X		
EW OPERATIONS			X	X	
INTEL, SURV, RECON OPNS			X	X	X
AIR DEFENSE SUPPRESSION				X	X
AIR DEFENSE OPERATIONS	X				X
AIR SPACE MANAGEMENT	X	X	X	X	

9. Who has responsibility for the counterfire program?

(a) AD Units
(b) Brigade
(c) Division
(d) Corps

10. How many units are responsible for air defense operations?

(f) 2
(g) 3
(h) 4
(j) 1

Name _____

11. How many types of programs does the Corps have responsibility for?

(a) 1 (c) 2
(b) 4 (d) 3

12. Which units have responsibility for three or more programs?

(f) Air Force; AD Units; Corps
(g) Intel,Surv,Recon Opns; Air Space Management
(h) AD Units; Brigade
(j) Division; Corps; Air Force

ANSWER SHEET
Locators and Visuals
Activity Sheet 3A
Tables

Name _____

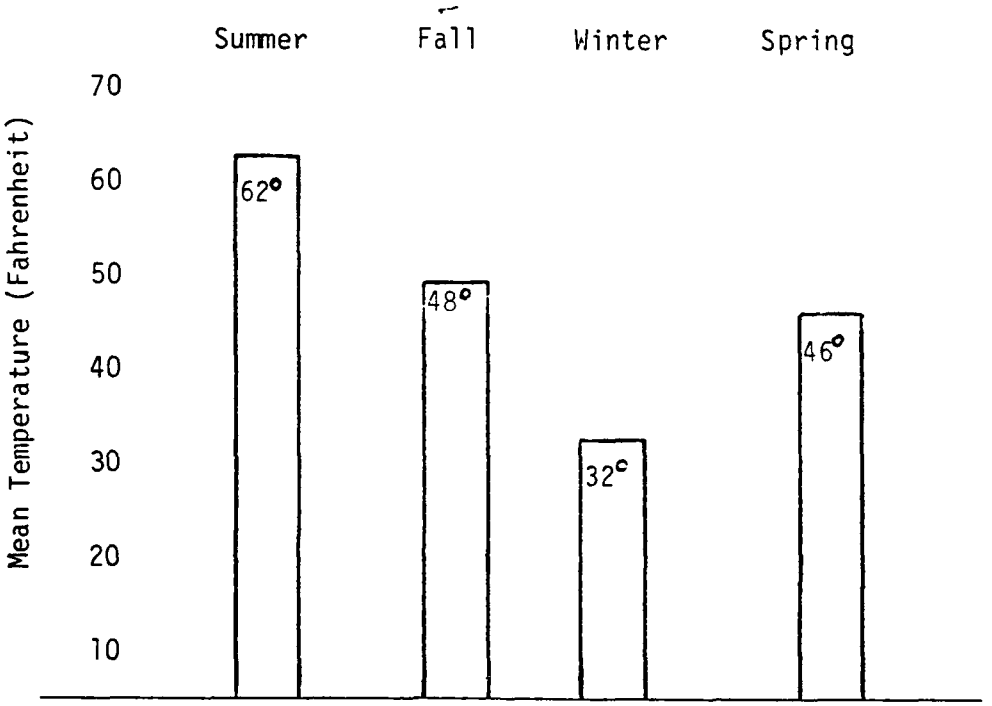
1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0
10.	f	g	h	j
	0	0	0	0
11.	a	b	c	d
	0	0	0	0
12.	f	g	h	j
	0	0	0	0

Locators and Visuals
Activity Sheet 4A
Bar Graphs

Name _____

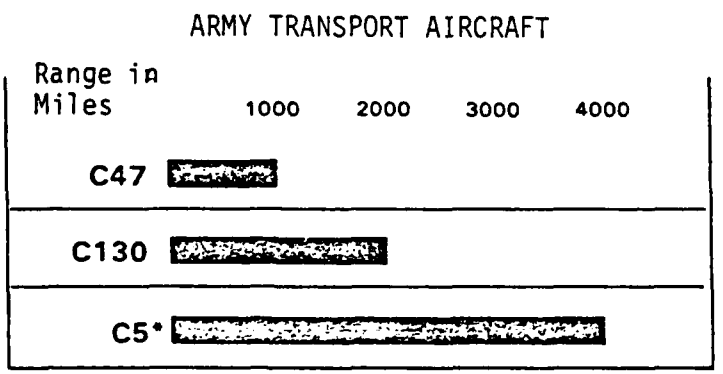
Bar graphs compare two or more things that have a quantity or number value. For bar graphs, the length of the bar by each item tells you how much of that item you have.

Look at this simple bar graph:



This shows you the mean temperature for each season in Germany. You can see that the bar for summer reaches just above the 60 degree mark, and the bar for winter reaches only above the 30 degree mark. It is also easy to see that the winter temperatures are about half the summer temperatures. You can see this without even reading the numbers, just by looking at the size of the bars.

Some bar graphs have vertical (up-and-down) bars. Others have horizontal side-to-side) bars. Here is an example of a horizontal bar graph:



Locators and Visuals
Activity Sheet 4A
Bar Graphs

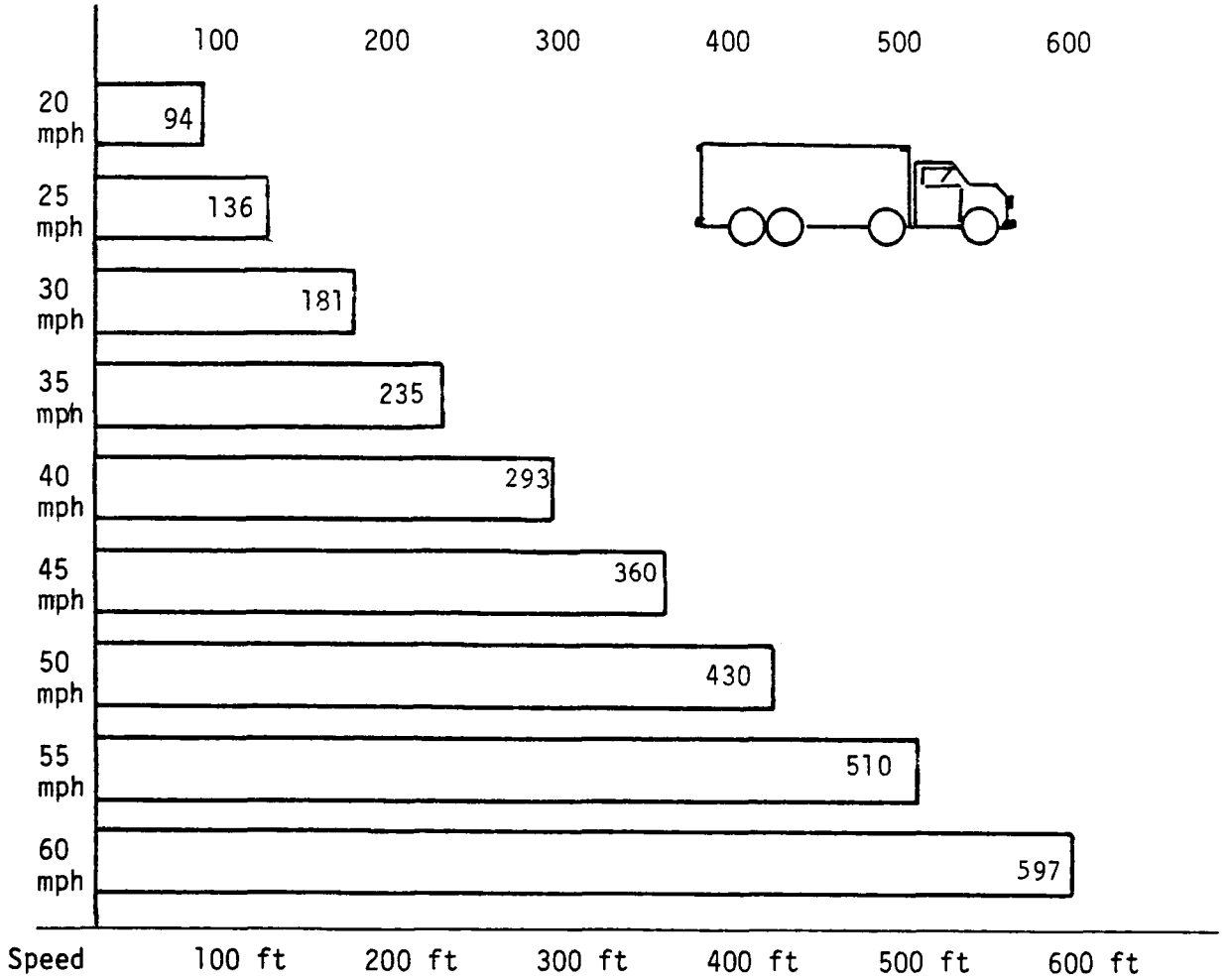
Name _____

This shows that the Army C47 transport plane had a range of only 1000 miles. The C5 transport has a range of four times that much, at 4000 miles. It is easy to see how much transport plane range has improved since the C47 was used.

Instructions: Read each of the bar graphs below, then answer the questions. Mark your answers on the Answer Sheet.

Use Graph #1 to answer Questions 1–4:

GRAPH #1



TOTAL DRIVER STOPPING DISTANCES FOR VEHICLES WITH A GROSS WEIGHT OF OVER 10,000 POUNDS (THREE AXLES OR MORE)

1. If a truck is moving at 40 mph, how many feet does it take to come to a stop?

(a) 94 (c) 293
(b) 181 (d) 430

Name _____

2. A truck takes 510 feet to stop. How fast was it going?

(f) 75 mph (h) 30 mph
(g) 55 mph (j) 60 mph

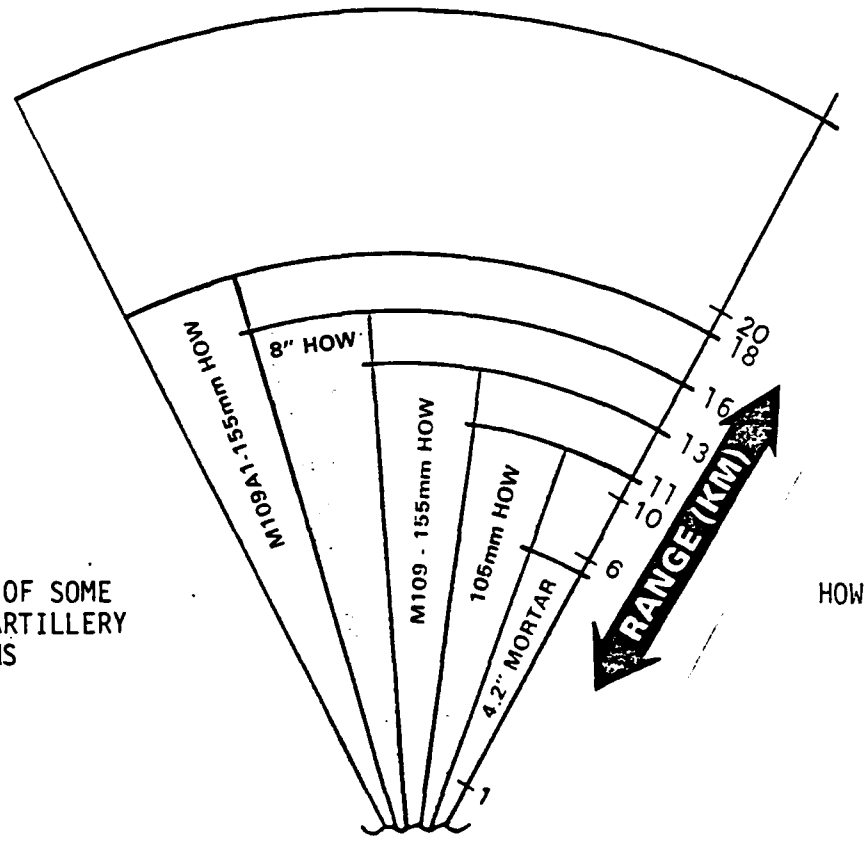
3. Truck A is going 40 mph and stops in 293 feet. Truck B stops in about twice as many feet. How fast was Truck B going?

(a) 40 mph (c) 80 mph
(b) 60 mph (d) 120 mph

4. If a truck takes 155 feet to stop, how fast was it going?

(f) Between 25 and 30 mph (h) 25 mph
(g) Between 30 and 35 mph (j) 30 mph

Use Graph #2 to answer Questions 5-8.



RANGE OF SOME U.S. ARTILLERY WEAPONS

HOW = Howitzer

Name _____

5. What is the range of the M109-155mm Howitzer?

(a) 20 km (kilometers)
(b) 16 km
(c) 13 km
(d) 11 km

6. Which goes the farthest:

(f) 105 mm Howitzer
(g) 4.2" Mortar
(h) M109-155 mm Howitzer
(j) M109A1-155 mm Howitzer

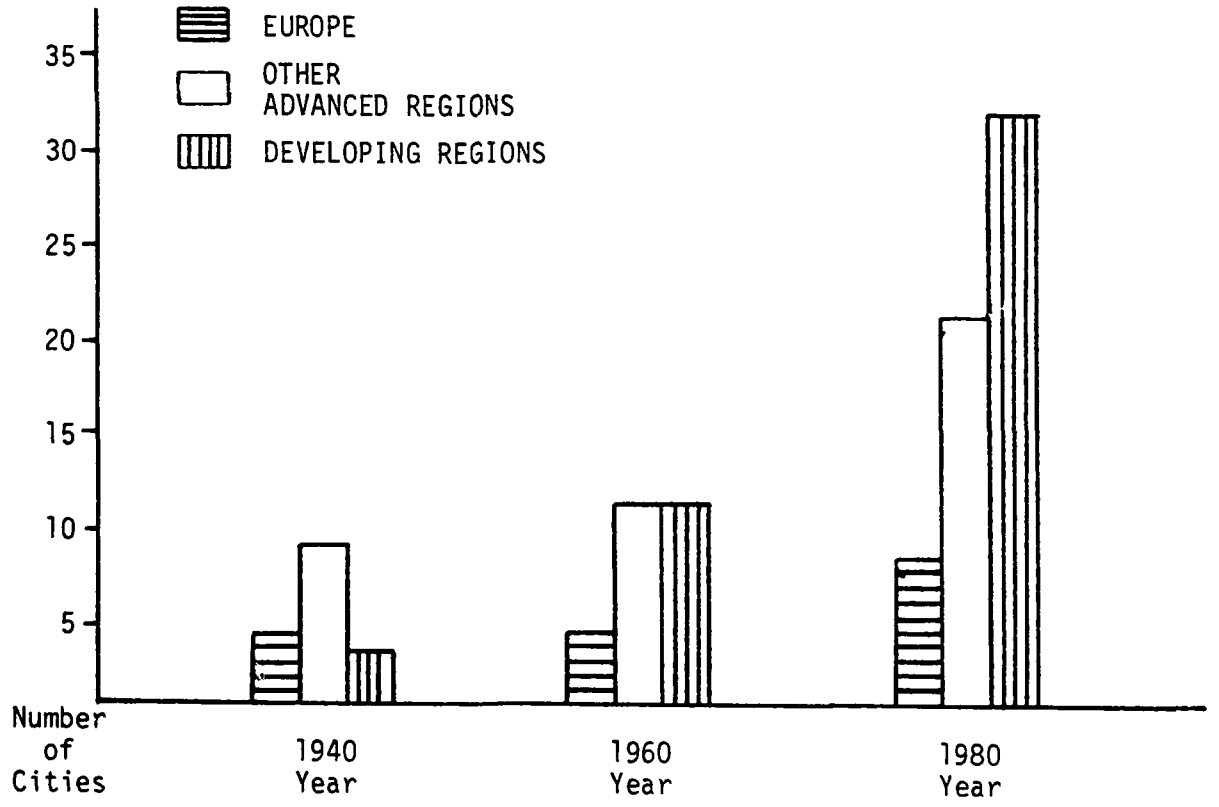
7. Which weapon has a range of 16 km?

(a) 8" Howitzer
(b) 105 mm Howitzer
(c) M109A1-155 mm Howitzer
(d) M109-155 mm Howitzer

8. Which weapon has a range of less than 10 km?

(f) 105 mm Howitzer
(g) 4.2" Mortar
(h) All the weapons
(j) 8" Howitzer

Use Graph #3 below to answer Questions 9-12.



NUMBER OF CITIES WITH MORE THAN 2.5 MILLION PEOPLE

Name _____

9. How many large cities were in Europe in 1940?

(a) 4 (c) 3
(b) 5 (d) 9

10. Which two regions had the same number of large cities in 1960?

(f) Europe and Other Advanced Regions
(g) Europe and Developing Regions
(h) Developing Regions and Other Advanced Regions
(j) None of the above

11. Which region had the same number of large cities in two different years?

(a) Other Advanced Regions
(b) None of the regions
(c) Developing Regions
(d) Europe

12. Which region had the fastest growth rate for large cities?

(f) Europe
(g) Other Advanced Regions
(h) Developing Regions
(j) All had the same rate

ANSWER SHEET
Locators and Visuals
Activity Sheet 4A
Bar Graphs

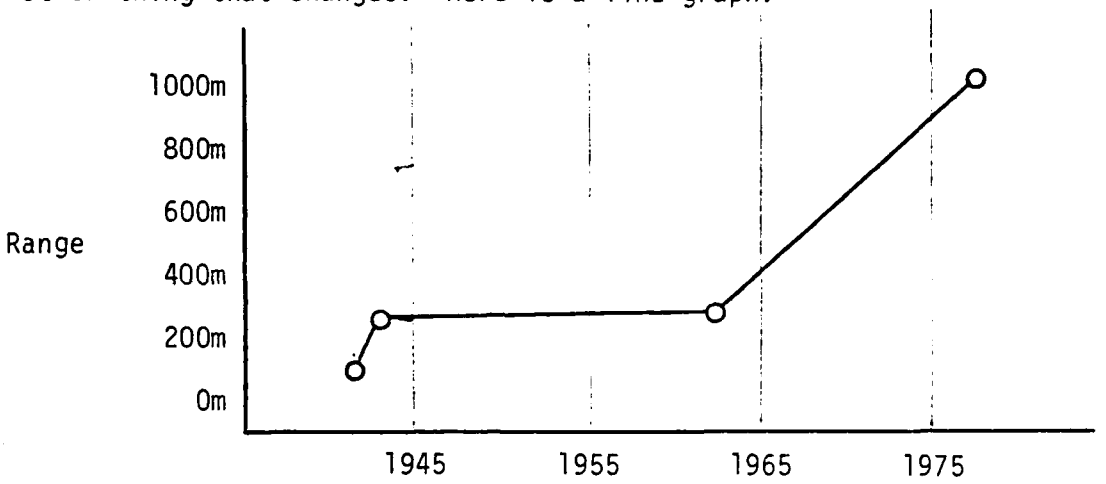
Name _____

1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0
10.	f	g	h	j
	0	0	0	0
11.	a	b	c	d
	0	0	0	0
12.	f	g	h	j
	0	0	0	0

Locators and Visuals
Activity Sheet 5A
Line Graphs

Name: _____

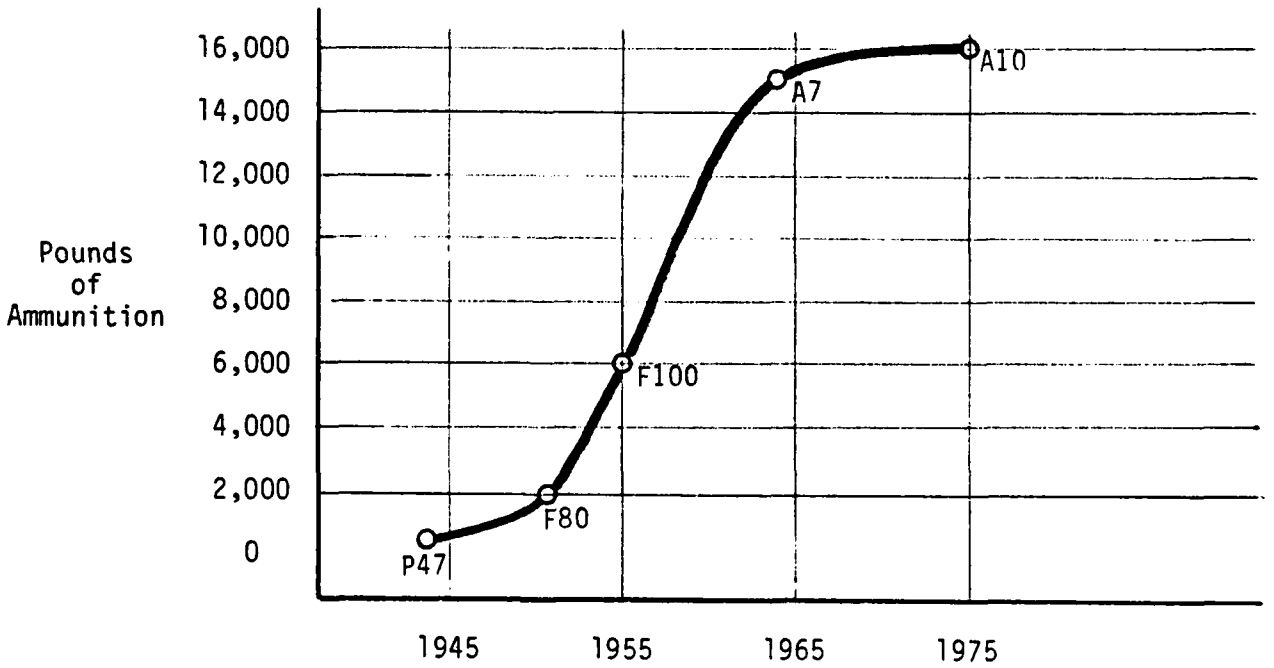
Line graphs are like bar graphs. They show amounts of things. But line graphs also show change. The change can be over time, or temperature, or any other thing that changes. Here is a line graph:



This shows the top effective range for individual anti-tank weapons for different years. In 1945, the effective range was between 200 and 300 meters. The range didn't really start to improve until around 1965. Soon after 1975, the top effective range for individual antitank weapons was 1000 meters. You can see by looking at the graph that individual antitank weapons got much better from 1965 to 1975.

Instructions: Look at each graph below. Then answer the questions. Mark your answers on the answer sheet.

Use Graph #1 to answer Questions 1-4:



Pounds of Ammunition that Different US Aircraft Could Carry in Different Years

Locators and Visuals
Activity Sheet 5A
Line Graphs

Name _____

1. How many pounds of ammunition could the F80 carry?

(a) 80 (c) 2,000
(b) 500 (d) 6,000

2. In what year could US planes carry 15,000 pounds?

(f) 1975 (h) 1955
(g) 1968 (j) 1964

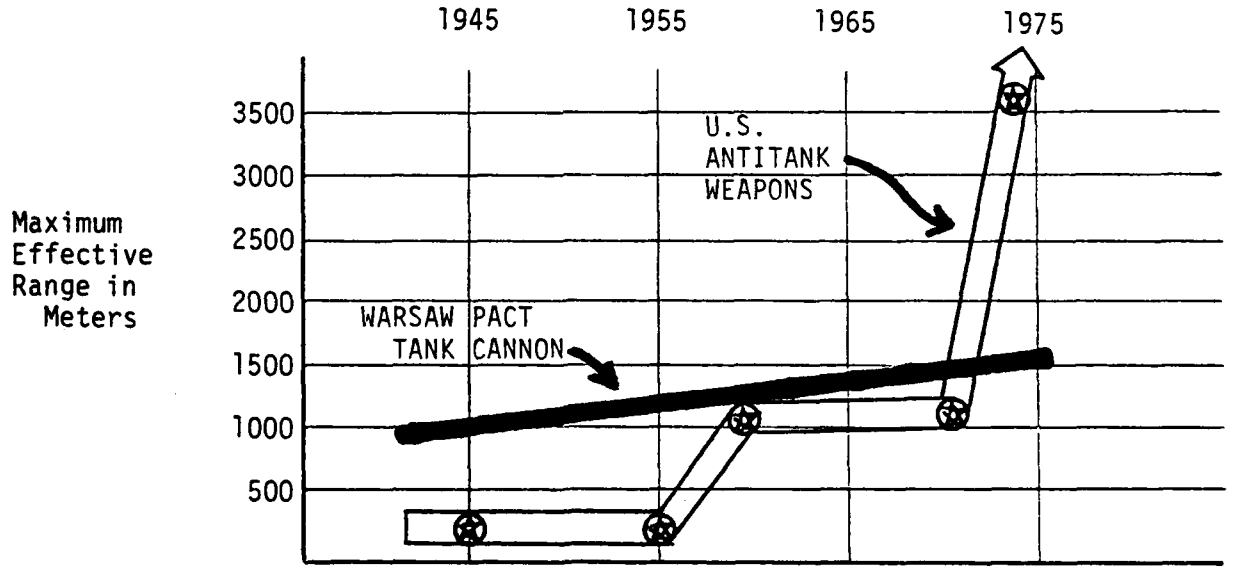
3. Which plane could carry 500 pounds of ammunition?

(a) P47 (c) F100
(b) F80 (d) A7

4. In 1955, how many pounds of ammunition could US planes carry?

(f) 2,000 (h) 16,000
(g) 6,000 (j) 15,000

Use Graph #2 to answer Questions 5-8.



Maximum Effective Range of Warsaw Pact Tank Main Guns and U.S. Antitank Weapons

5. In 1945, what was the maximum effective range of U.S. antitank weapons?

(a) 250 meters (c) 1010 meters
(b) 500 meters (d) 3500 meters

Name _____

6. In 1965, which weapon had a maximum effective range of almost 1500 meters?

(f) US antitank weapons
(g) Warsaw Pact tanks
(h) Both weapons
(j) Neither weapon

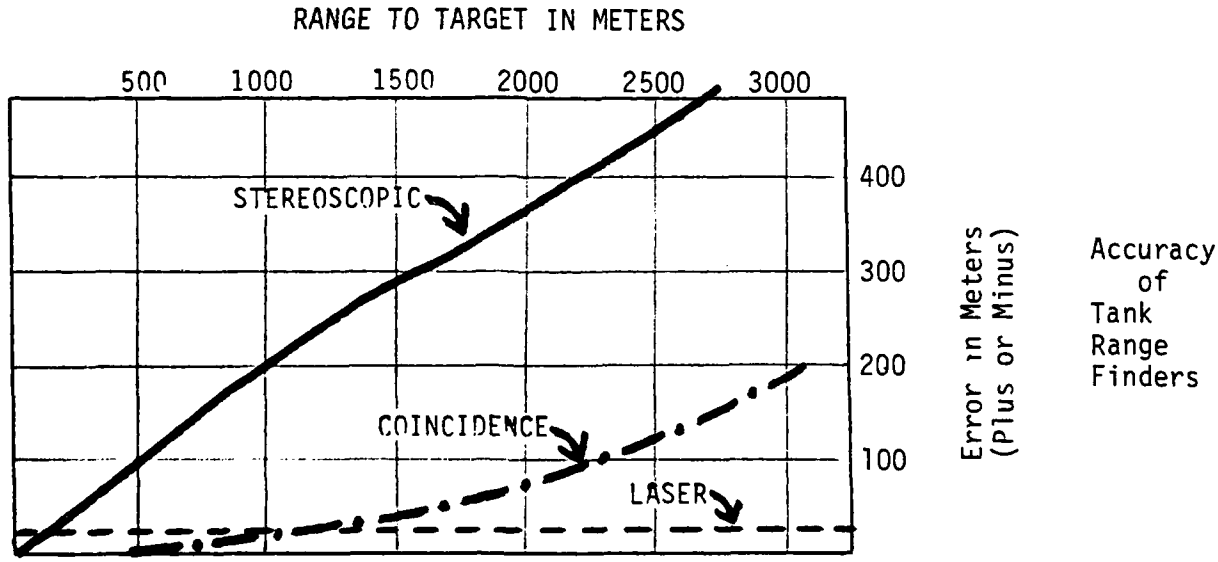
7. In the early 1970s, the U.S. developed the TOW antitank weapon. What was the <u>effect</u> of inventing the TOW?

(a) US antitank weapons dropped in range
(b) Warsaw Pact tanks dropped in range
(c) US antitank weapons became longer in range than Warsaw Pact tanks
(d) Warsaw Pact tanks can still shoot farther than US antitank weapons

8. For what period of time did US antitank weapons have an effective range of about 1000 meters?

(f) 1945-1955
(g) 1955-1958
(h) 1958-1972
(j) 1972-1975

Use Graph #3 to answer Questions 9-12.



9. This graph shows that:

(a) At longer ranges, some tank range finders are less accurate than at shorter ranges.
(b) Coincidence range finders are more accurate than stereoscopic range finders.
(c) Laser range finders are very accurate at any range.
(d) All of the above.

 Name _____

10. At 2500 meters, what is the error of the stereoscopic range finder?

(f) Over 400 meters plus or minus
(g) Less than 300 meters plus or minus
(h) About 100 meters plus or minus
(j) Almost 0 meters plus or minus

11. At what range does the coincidence range finder have an error of 100 meters plus or minus?

(a) 2000 meters
(b) 2500 meters
(c) 2300 meters
(d) 3000 meters

12. Which is the most accurate at 500 meters of range?

(f) Stereoscopic range finder
(g) Coincidence range finder
(h) Laser range finder
(j) Both coincidence and laser range finder

ANSWER SHEET

Locators and Visuals
Activity Sheet 5A
Line Graphs

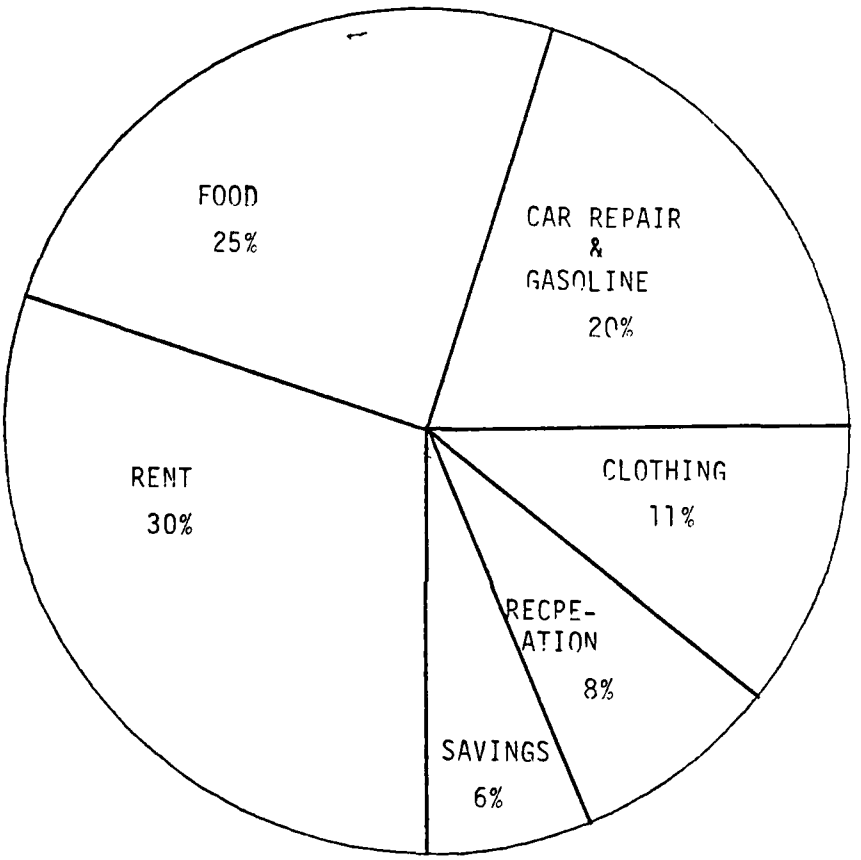
Name _____

1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	
	0	0	0	0
10.	f	g	h	j
	0	0	0	0
11.	a	b	c	d
	0	0	0	0
12.	f	g	h	j
	0	0	0	0

Name _____

There is another kind of graph that is related to fractions and percents. It is called a pie graph, because it is cut into sections like a pie. The whole graph shows all (100%) of a thing. The slices or sections show what makes up the whole pie. Here is a pie graph:

SGT. CARTER'S EXPENDITURES
FOR THE MONTH OF JUNE



This shows how SGT Carter, who lives off-post, spent his paycheck for the month of June.

You can see that he spent the largest amount of his pay, 30%, on rent. The next largest amount, 25%, went for food. The smallest part of his pay, 6%, went into his savings account.

If you wanted to see what part of his paycheck SGT Carter spent on rent, food, car repair and gasoline combined, you just add those three sections of the pie together. 30% + 25% + 20% = 75% spent on rent, food, car repair and gasoline.

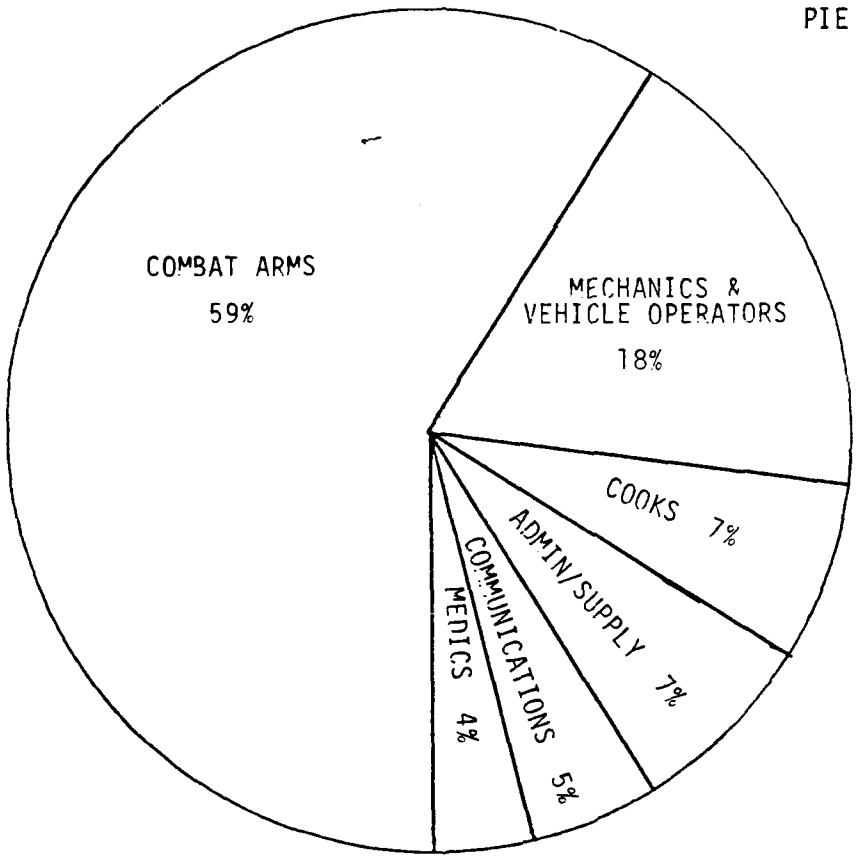
Locators and Visuals
Activity Sheet 6A
Pie Graphs

Name _____

Instructions: Read the pie graphs below. Then answer the questions. Mark the correct answer on your answer sheet.

Use Pie Graph #1 to answer Questions 1-5.

PIE GRAPH #1



Percentage of Different Types of MOSs, for MOSs with More than 100 Individuals, Fort Ord, 1981

1. What was the largest MOS group at Fort Ord in 1981?

(a) Medics
(b) Administration/Supply
(c) Cooks
(d) Combat Arms

2. What percentage of people are in Communications MOSs?

(f) 9%
(g) 96%
(h) 5%
(j) 7%

Name _____

3. Which two MOS groups had the same percentage of members?

(a) Medics & Communications
(b) Cooks & Admin/Supply
(c) Mechanics/Vehicle Operators & Combat Arms
(d) Communications & Cooks

4. What is the total of Medics, Communications personnel, and Cooks?

(f) 19%
(g) 23%
(h) 77%
(j) 16%

5. What was the second largest MOS group at Ft. Ord in 1981?

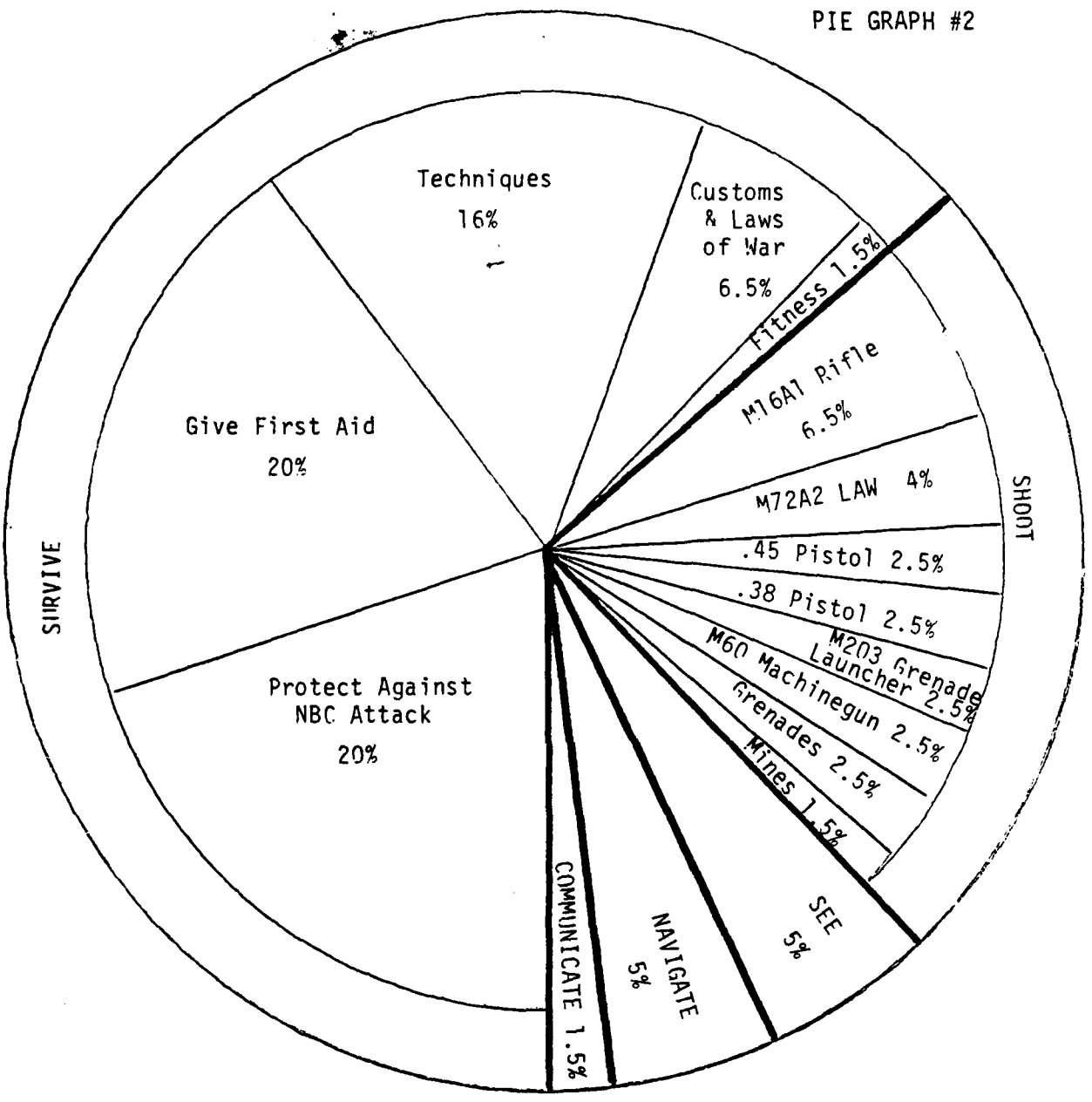
(a) Mechanics/Vehicle Operators
(b) Cooks/Admin/Supply
(c) Combat Arms
(d) Communications

Use Pie Graph #2 to answer Questions 6-10.

Locators and Visuals
Activity Sheet 6A
Pie Graphs

Name _____

PIE GRAPH #2



TASK AREAS IN SOLDIER'S MANUAL OF COMMON TASKS,
SKILL LEVEL 1

6. What percent of Soldier's Manual tasks are survival tasks?

(f) 20%
(g) 56%
(h) 64%
(j) 6.5%

7. What percent of Soldier's Manual tasks are tasks on pistols?

(a) 5%
(b) 2.5%
(c) 18%
(d) 24.5%

Name _____

8. The tasks are divided into five major sections and several subsections. What is the smallest major section of tasks?

(f) See
(g) Communicate
(h) Navigate
(j) Shoot

9. Into how many subsections is the section called "Shoot" divided?

(a) 1
(b) 5
(c) 3
(d) 8

10. What percent of Soldier's Manual tasks are not "Shoot" tasks?

(f) 75.5%
(g) 64%
(h) 79.5%
(j) 20.5%

ANSWER SHEET

Locators and Visuals
Activity Sheet 6A
Pie Graphs

Name _____

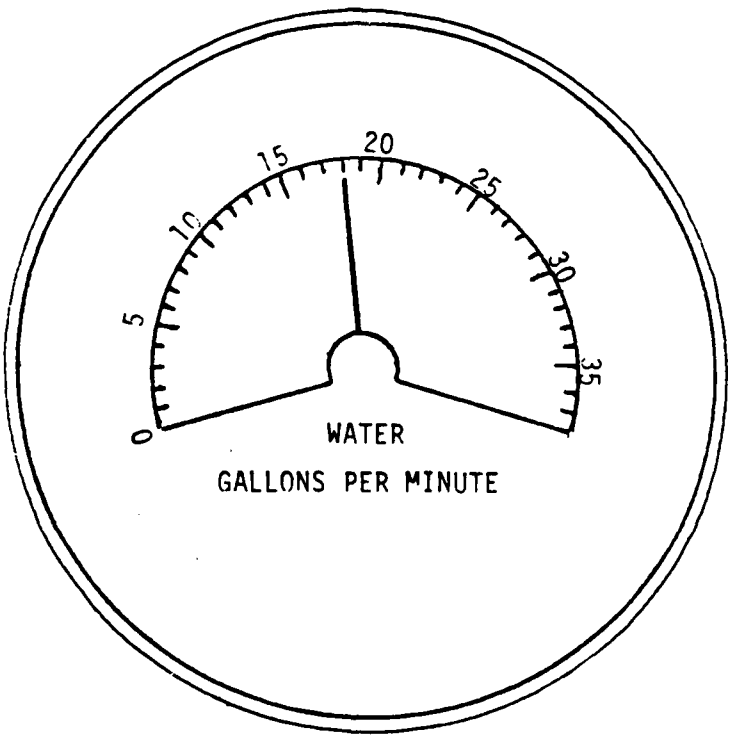
1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0
10.	f	g	h	j
	0	0	0	0

Locators and Visuals
Activity Sheet 7A
Meters and Dials

Name _____

Meters and dials are a lot like graphs. They tell you how something changes over time or under different conditions. But graphs show what <u>has happened</u> or what <u>to expect</u>. Meters and dials tell you what is happening <u>right now</u>. You use meters and dials to tell you many things, such as how much electrical current is going through a wire or how fast your car is going.

Here is one example of a <u>dial</u>. It shows you how many gallons of water go through a pump in one minute.



You can see that the pointer on the dial points to the third mark up from the mark labeled "15." Count up from 15 three marks and you get 18. The dial shows there are 18 gallons of water going through the pump every minute.

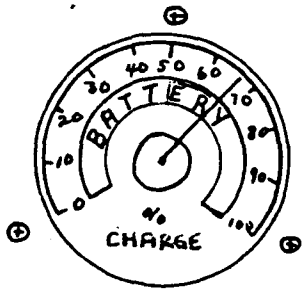
Every meter or dial has a <u>scale</u>, which shows <u>what</u> is being measured, and an <u>indicator</u>, which shows <u>how much</u>. The indicator is usually a pointer, but it can be a colored bar. In thermometers, for instance, you see a column of mercury which looks like a colored bar.

Instructions: For each question below, look at the meter or dial, then answer the question. Mark the correct answer on your answer sheet.

Locators and Visuals
Activity Sheet 7A
Meters and Dials

Name _____

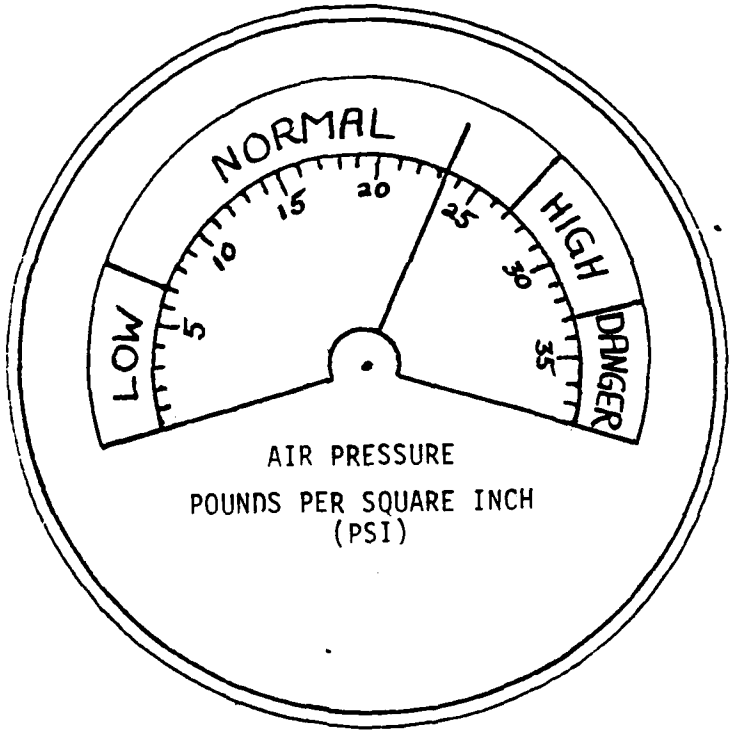
Example: What percent of charge is left in this battery?



(a) 67% (c) 33%
(b) 38% (d) 50%

a	b	c	d
●	0	0	0

Use the dial shown below to answer Questions 1-3.



1. About how many pounds of air pressure per square inch does the dial show?

(a) 20 PSI (c) 17 PSI
(b) 25 PSI (d) 23 PSI

2. At what air pressure does the Danger zone begin?

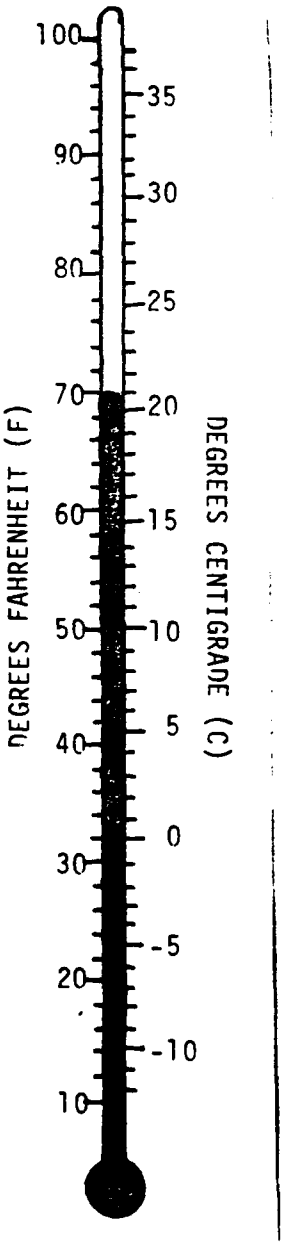
(f) 7 PSI (h) 23 PSI
(g) 33 PSI (j) 27 PSI

Name _____

3. If the pointer showed 5 PSI, what zone would it be in?

(a) Low (c) High
(b) Normal (d) Danger

Use the thermometer to answer Questions 4-6.



4. What is the temperature in Fahrenheit?

(f) 21° (h) 70°
(g) 22° (j) 68°

5. Which temperature scale shows negative numbers (numbers less than 0)?

(a) Fahrenheit (c) Both
(b) Centigrade (d) Neither

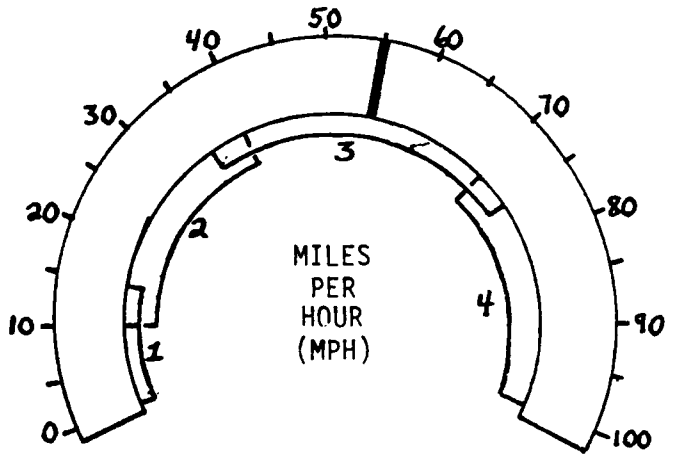
6. 10° C equals how many degrees F?

(f) 10°F (h) 12° F
(g) 50°C (j) 50°F

Locators and Visuals
Activity Sheet 7A
Meters and Dials

Name _____

Use the meter below to answer Questions 7-9.



7. How fast is the car going?

(a) 55 mph
(b) 60 mph
(c) 50 mph
(d) 3 mph

8. This speedometer shows which gear you should use at different speeds. The gear ranges overlap. At the speed this car is going, what gear should it be in?

(f) 1st
(g) 2nd
(h) 3rd
(j) 4th

9. At what speed should you shift from 2nd to 3rd gear?

(a) 10 to 15 mph
(b) 35 to 40 mph
(c) 70 to 75 mph
(d) 55 mph

ANSWER SHEET
Locators and Visuals
Activity Sheet 7A
Meters and Dials

Name _____

1.	a	b	c	d
	0	0	0	0
2.	f	g	h	j
	0	0	0	0
3.	a	b	c	d
	0	0	0	0
4.	f	g	h	j
	0	0	0	0
5.	a	b	c	d
	0	0	0	0
6.	f	g	h	j
	0	0	0	0
7.	a	b	c	d
	0	0	0	0
8.	f	g	h	j
	0	0	0	0
9.	a	b	c	d
	0	0	0	0

CHECK SHEET
Locators and Visuals
Activity Sheet 1A
Table of Contents

1.	a	b	c	d
	○	○	●	○
2.	f	g	h	j
	○	○	●	○
3.	a	b	c	d
	●	○	○	○
4.	f	g	h	j
	○	●	○	○
5.	a	b	c	d
	○	●	○	○
6.	f	g	h	j
	○	○	○	●
7.	a	b	c	d
	○	○	●	○
8.	f	g	h	j
	○	○	○	●
9.	a	b	c	d
	○	○	●	○
10.	f	g	h	j
	○	●	○	○
11.	a	b	c	d
	○	○	○	●
12.	f	g	h	j
	●	○	○	○

CHECK SHEET

Locators and Visuals
Activity Sheet 2A
Index

Name _____

1.	a	b	c	d		7.	a	b	c	d
	0	0	●	0			0	0	0	●
2.	f	g	h	j		8.	f	g	h	j
	●	0	0	0			0	0	●	0
3.	a	b	c	d		9.	a	b	c	d
	0	0	0	●			0	0	0	●
4.	f	g	h	j		10.	f	g	h	j
	0	●	0	0			●	0	0	0
5.	a	b	c	d		11.	a	b	c	d
	0	●	0	0			●	0	0	0
6.	f	g	h	j		12.	f	g	h	j
	0	0	●	0			0	0	●	0

CHECK SHEET

Locators and Visuals
Activity Sheet 3A
Tables

1.	a	b	c	d
	○	○	●	○
2.	f	g	h	j
	○	●	○	○
3.	a	b	c	d
	●	○	○	○
4.	f	g	h	j
	○	○	○	●
5.	a	b	c	d
	○	●	○	○
6.	f	g	h	j
	○	○	○	●
7.	a	b	c	d
	○	○	●	○
8.	f	g	h	j
	●	○	○	○
9.	a	b	c	d
	○	○	●	○
10.	f	g	h	j
	●	○	○	○
11.	a	b	c	d
	○	●	○	○
12.	f	g	h	j
	○	○	○	●

CHECK SHEET

Locators and Visuals
Activity Sheet 4A
Bar Graphs

1.	a	b	c	d
	0	0	●	0
2.	f	g	h	j
	0	●	0	0
3.	a	b	c	d
	0	●	0	0
4.	f	g	h	j
	●	0	0	0
5.	a	b	c	d
	0	0	●	0
6.	f	g	h	j
	0	0	0	●
7.	a	b	c	d
	●	0	0	0
8.	f	g	h	j
	0	●	0	0
9.	a	b	c	d
	●	0	0	0
10.	f	g	h	j
	0	0	●	0
11.	a	b	c	d
	0	0	0	●
12.	f	g	h	j
	0	0	●	0

CHECK SHEET
Locators and Visuals
Activity Sheet 5A
Line Graphs

1.	a	b	c	d
	○	○	●	○
2.	f	g	h	j
	○	○	○	●
3.	a	b	c	d
	●	○	○	○
4.	f	g	h	j
	○	●	○	○
5.	a	b	c	d
	●	○	○	○
6.	f	g	h	j
	○	●	○	○
7.	a	b	c	d
	○	○	●	○
8.	f	g	h	j
	○	○	●	○
9.	a	b	c	d
	○	○	○	●
10.	f	g	h	j
	●	○	○	○
11.	a	b	c	d
	○	○	●	○
12.	f	g	h	j
	○	●	○	○

CHECK SHEET

Locators and Visuals
Activity Sheet 6A
Pie Graphs

1.	a	b	c	d
	○	○	○	●
2.	f	g	h	j
	○	○	●	○
3.	a	b	c	d
	○	●	○	○
4.	f	g	h	j
	○	○	○	●
5.	a	b	c	d
	●	○	○	○
6.	f	g	h	j
	○	○	●	○
7.	a	b	c	d
	●	○	○	○
8.	f	g	h	j
	○	●	○	○
9.	a	b	c	d
	○	○	○	●
10.	f	g	h	j
	●	○	○	○

CHECK SHEET

Locators and Visuals
Activity Sheet 7A
Meters and Dials

1.	a	b	c	d
	0	0	0	●
2.	f	g	h	j
	0	●	0	0
3.	a	b	c	d
	●	0	0	0
4.	f	g	h	j
	0	0	●	0
5.	a	b	c	d
	0	●	0	0
6.	f	g	h	j
	0	0	0	●
7.	a	b	c	d
	●	0	0	0
8.	f	g	h	j
	0	0	●	0
9.	a	b	c	d
	0	●	0	0

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LEARNING STRATEGIES: READING COMPREHENSION MODULE

ACKNOWLEDGEMENT

This lesson is taken from Study Skills Package: Development and Evaluation by J. L. Dobrovolny, B. L. McCombs, and W. A. Judd. Where appropriate, the language has been changed to make the material applicable to the Army population for which it is intended. Many of the ideas, concepts and examples of reading comprehension presented in this lesson are from Learning Strategy Training Materials: A Selected Subset and Systematic Training Program for Enhancing Learning Strategies and Skills: Further Development by D. F. Dansereau, K. W. Collins, B. A. McDonald, G. Diekhoff, J. Garland, and C. S. Holley, and Field test of a revised form of the cognitive learning strategies training program with Army enlisted personnel by C. E. Weinstein, M. M. Rood, C. Roper, V. L. Underwood, and F. W. Wicker.

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READING COMPREHENSION

The objectives for this lesson on Reading Comprehension are:

1. You are able to use the Questioning method to read;
2. You are able to use the Network method to read;
3. You are able to use the Problem Solving method to read;
4. You are able to select which of the three reading methods is best for you and to use this method when you read to learn.

We've all read something and had trouble following the author's chain of thought. Sometimes we come across a sentence or paragraph which just doesn't make sense. We usually know when we don't understand what the author is saying. But we don't always know what to do about it. Other times we begin to read a book and don't even make it past the first sentence. Sometimes the words are hard. Sometimes the whole sentence is hard. Many times the book or manual has a lot of new ideas or words. What we need is a way to help us. That's what this unit will offer you: ways to deal with reading tasks.

We have found that there are three basic ways that seem to help people read better: (a) Questioning, (b) Networking, and (c) Problem Solving. In this lesson we will talk about each of these ways. You will have a chance to practice using each of them.

These three ways of reading help people understand what they read better. They are based on our work with other good readers. We are <u>not</u> saying that there are only three ways to read. But we do know that some of the other ways people read does them more harm than good.

Some people take "notes" as they read. They copy the book word for word. Some people copy their notes several times. Some just ignore words or sentences they don't understand. Can you think of some things that you do when you are reading that may not be helping you?

At the end of this lesson, you may find that one method works better for you than any of the others. Or you may think that two of them work just as well for you. On the other hand, you may find that all three help you. Whatever you

decide, be sure to practice your chosen method(s) in all of your reading. This way you can be your own learning methods expert.

The first reading method we will talk about is Questioning...the use of questions to find the main idea of a paragraph.

Questioning

The questioning method has four steps:

Step 1: State the purpose of your reading and set up your time schedule. You may be reading to take an SQT test or to learn how to perform a soldier manual task. The amount of time you spend will often depend on why you are reading, and the kind of books you use.

Step 2: Read to find the main idea. Read the first paragraph of your manual or book. Decide if the main idea is clear or not. The main idea is often found in the first sentence of the paragraph. The main idea is also often found in the last sentence of the paragraph. The other sentences in the paragraph often give you more information about the main idea. If the point the author is making is clear to you, write it down. If it is not, write down the part you think is the key point.

Step 3. Make up a question. Your question should ask about the main point of the paragraph. Look at the example below. This is a paragraph about the idea "organization":

> An organization is a group of people who do things together because they have the same interests or problems. Organizations have rules and they often have a leader. The United Nations and the school safety patrol are examples of organization.

A good question would be "What is an organization?". The answer to that question would state the main idea of the paragraph.

If possible, you should make up a question which asks for an example of the main idea of the paragraph. The example should be different from any which were given in the paragraph. In the above example, a good question would be: What is an example of an organization which is different from any given in the passage above? In short, your questions should do three things: The question should (a) be based on the main idea; (b) call for use of the main ideas in making up new examples; and (c) should be written in your own words.

Repeat Steps 2 and 3 on each paragraph you read. That is, read, write down the main point(s) and make up a question about the paragraph you read.

Step 4: Learn the answer to your questions. After you finish reading, try to remember the answer to your questions. If you can't remember them, look them up in the text. But don't waste time writing them down.

Now you will get the chance to practice the Questioning method on a few paragraphs. As you go through the material, you may want to go back to earlier questions to rewrite them. You should do that when you want to. After reading each paragraph, write your question below that paragraph. Then you will see an example of what we picked as the main idea of that paragraph. You will also see a question we wrote about that main point.

Remember: There are lots of ways to ask a good question. Your own questions, however, will probably be the best aid for you to understand and remember what you read. If you are not sure about how good your question is, use the checklist shown on the following page:

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1. Does the question come from the main point of the paragraph? If not, write a question that does.

2. Does the question ask for a new example of the main idea? If not, can a new question be made that does?

3. Does the question repeat words or groups of words from the text? If so, could you change these into your own words which mean the same thing?

Below is an example of the use of the Questioning technique. Read the paragraph and then read the question we wrote and the ideas we added. If you understand this example, go on to the next page and practice the Questioning method. If you don't understand this example, return to page 2 and review the 4 steps of the Questioning method or ask your instructor for help.

Example:

Soldiers may have to fight against an enemy that uses NBC agents. A soldier has to live and fight while wearing clothes that protect him from NBC agents. Even simple tasks have to be done in new ways. Some simple tasks are very vital. Some examples are drinking water, using the latrine and sleeping.

Question: What must a soldier do when NBC agents are being used?
Give an example of tasks that must be done in new ways.

COMMENTS: The main idea of the paragraph is that a soldier has to live and fight while wearing clothes that protect him from NBC agents. The question was written in such a way that its answer will be the main idea of the paragraph.

Note that the words of the question are not the same as those in the text.

An example of what a soldier must do that is different from that used in the text would be how to eat when in an NBC area.

Here is another example of the use of the Questioning technique. Read the paragraph, and then read the question we have written and the comments we have added. If you understand this example, go on to the next page and practice the Questioning method. If you don't understand this example, return to Page 2 and review the 4 steps of the Questioning method or ask your instructor for help.

Your M17A1 mask and your canteen were made so that you can drink while in an NBC area. The mask has a coupling half in a pocket under the voicemitter. The canteen has a cover over a small hole in the cap. The coupling half on the mask fits into the hole in the cap.

Question: How are you able to drink in an NBC area?

COMMENTS: The main idea of the paragraph is that your M17A1 mask and your canteen were made so that you can drink while in an NBC area. The question

was written in such a way that its answer will be the main idea of the paragraph.

Note that the words of the question are not the same as those in the text.

Asking for a new example is not necessary in this case. There is only one right way to use the mask and canteen to drink.

Use the Questioning Method in reading the paragraph below. Find the main idea, underline it, and write a question at the bottom of the page. Try to answer the question in your own mind. Then compare your question with the one we have written on the next page.

EXAMPLE:

> There is only one right way to drink water while masked. The right way to drink is shown, step-by-step, in FM 21-2. Every soldier must know how to drink water as shown in this Soldier's Manual of Common Tasks. You can use the manual to learn and practice the right way. Practice until you can do it without the manual.

Write your question here:

_____

_____

_____

_____

There is only one right way to drink water while masked. The right way to drink is shown, step-by-step, in FM 21-2. Every soldier must know how to drink water as shown in this Soldier's Manual of Common Tasks. You can use the manual to learn and practice the right way. Practice until you can do it without the manual.

Question: Where can I find out how to drink in an NBC area?

COMMENT: The answer to this question is: "The right way to drink while masked is shown in FM 21-2, the Soldier's Manual of Common Tasks." This is the main idea of the paragraph.

The next 2 pages contain a short passage so that you can practice the Questioning Method on more than one paragraph. After you read each paragraph, underline the main idea and write your question.

Remember to write questions that fulfill the 3 objectives outlined in the third step of the Questioning Method. That is, your questions should: a) be based on important ideas; b) they should call for a new example of the idea, if possible; c) and they should not repeat words from the passage.

You can also check your questions with those we have written (Page 11).

QUESTIONING AS A STUDY AID

The results of using questions as a study aid show that people who use questions in reading are able to remember better than people who don't use questions. Research reveals that when people are asked or ask questions, even after a long passage, such as at the end of a chapter in a textbook, they can be very helpful to learning.

1. Question:

It seems that the questions act primarily on the person's ability to get the information out of his or her head. Asking questions while reading helps people "retrieve" the information they need such as when they are taking a test.

2. Question:

The Questioning method of reading was also found to be useful in a formal classroom. When the students were given a reading assignment which took them 15-20 minutes to study, they were also given several study questions. After reading the assignment, they reported to the teacher and were given a test over the material they had just read. If they did not answer at least 75% of the questions correctly, they were told to read the material again. After reading the material, they retook the test. The performance of students who used the study questions was compared with a group of students who read the material on their own without using questions. In each of three semesters, those students who used the study questions to help them learn the material did much

3. Question:

better on a final test that did a group of students who read the material on their own.

Now, before turning the page to look at the questions we wrote, be sure you:

1. Underline the main idea in each paragraph.
2. Write a good question beside each paragraph.

Our Questions on Questioning As A Study Aid

1. Question: How do students who use questioning as a study aid do on tests compared to students who don't use this method?

2. Question: What do study questions help students to do?

3. Question: Which group of students did better of the final test?

This is the end of the Reading Comprehension section on Questioning. This technique may be your favorite. On the other hand, read the next two sections on Networking and Problem Solving to make sure that you know all of the choices you have to improve your reading ability.

Networking

Networking is a way to organize information. It is based on research which shows that very smart people think about how different ideas relate to each other. By thinking about how ideas connect, smart people learn new ideas quickly and easily. So, Networking is a way to organize connections or relationships. It is like making a map of the ideas you want to learn. Just as a road map helps a driver get from one place to another, Networks can help you get from one idea to another. They help you understand what you read.

You might think of Networking as making highways between major ideas. Let's say I am in Salinas, and I want to get to San Francisco. I know that the highway (relationship or link) connecting them is Highway 101. Further, I know that there are other roads connecting those 2 cities. There's a state highway, a farm-to-market road, and so forth.

My task appears much easier, doesn't it? I simply choose the road I want to take, find that road, and presto, I'm in San Francisco. So the first important part of Networking is making links or relationships between ideas.

Another important part of Networking is its use of mental pictures. This is another idea from recent research. It shows that when people try to "picture" what they are reading about or listening to, it helps them remember it much better than when they don't. The funny thing is that it will work even if you can't really see a mental picture. The only thing that seems important is the act of trying to "picture" it. It doesn't matter whether you are successful or not.

Pictures are also good because you can make them very interesting, exciting, pleasant, funny, and so on. So, put pictures in your memory or in your "notes." Then when you come back to review what you have been reading, it will be much more fun. In a way, making interesting pictures is like adding spices to food to make them taste better.

So thinking and drawing interesting pictures of what you read is something we would like you to start doing. Please don't be afraid if you don't draw very well. The pictures you draw are just notes to yourself.

The third part of Networking is "paraphrasing" (para-fraze-ing). By this we simply mean to put what the author is saying in your own words. For instance, an author might say, "The economy of the United States is in grave trouble." We can then say "The U.S. economy is a mess."

Also, you might want to spice up your paraphrases. Remember that silly or funny pictures are easy to remember. In the same way, silly or funny paraphrases make things easy to remember. For example, remember the author's statement in the last paragraph. We can spice up our paraphrase by saying "Uncle Sam writes rubber checks!"

OK, now you know that Networking is a way to organize information. It creates relationships or links, and mental pictures. Figure 1 gives a picture of why and how Networking is used. The author in Figure 1 has stored networks or maps in his head. And he is trying to tell a reader about these networks. In order to do that, the maps in the author's head have to be put into words.

When you change mental or mind maps into words, you often lose a lot of the picture. Words just do not have as much information as pictures do. The change is like looking at a large city or farm from an airplane and then looking at the same place when you are on the ground. When you are on the ground, you can see only a small part of what you could see from the plane. When you read a book or listen to someone talk, you are forced to look at information like you would look at a place from the ground. It does not give enough information. It will help to try to see the big picture by making your own mind map.

So, after the author changes his mind map into words, your job is to find out what the author is trying to say. To do this, you change the words into your own mind map. You connect all the ideas and add your own feelings and pictures. This helps you remember what the author said.

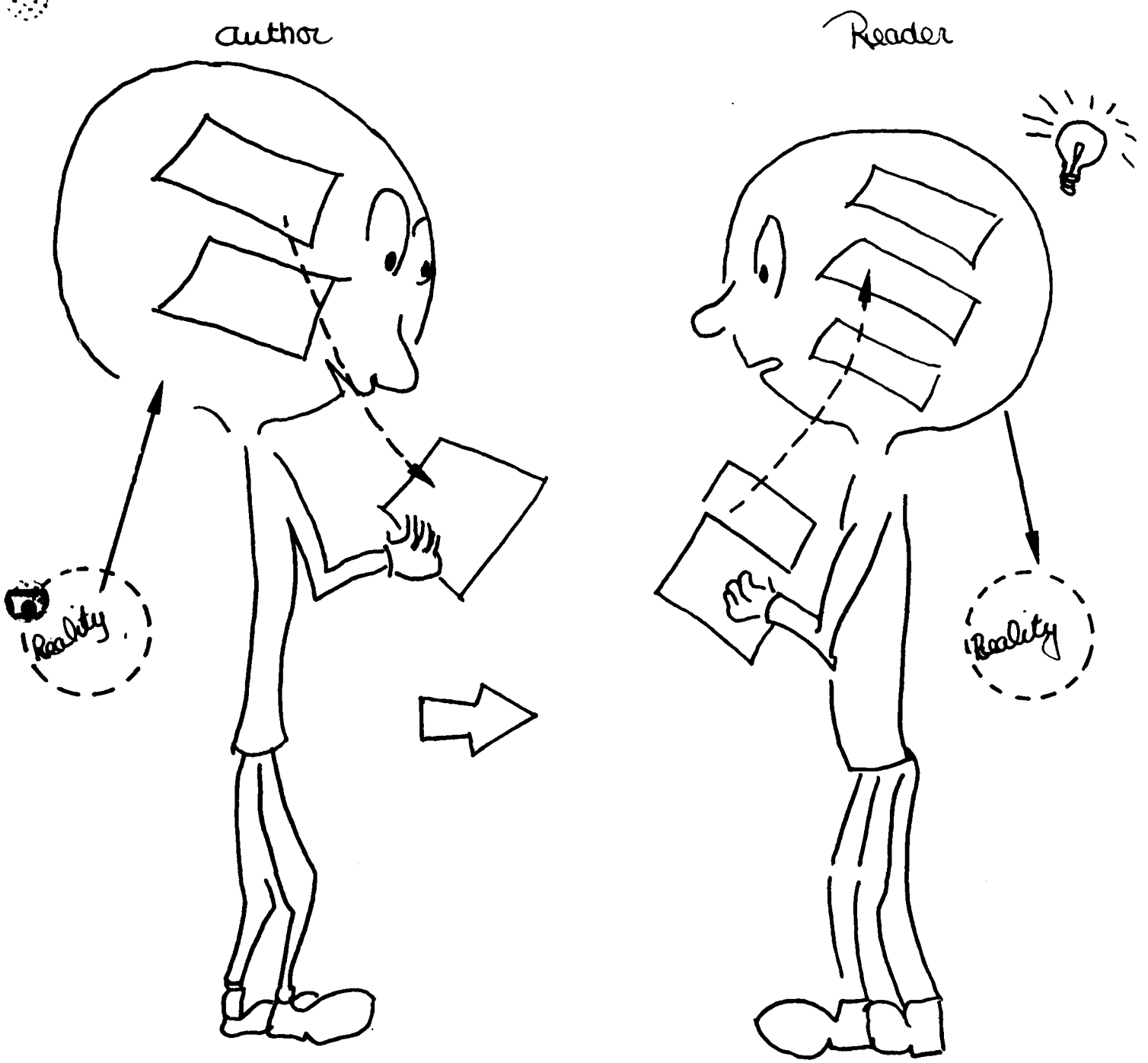


FIGURE 1

Now, let's talk about the kinds of links that can connect ideas. You probably already know all of the links we are going to talk about. But you may not know the names of these links. To help you learn these names, let's look at the idea "Infantry Division."

What are some things that are known about an Infantry Division. First, the Infantry Division is one of several kinds of divisions that make up the Army. In Networking, we show the relationship between Infantry Division and Army by a solid line. And we add a "t" for type of (See Figure 2). Some other divisions are the Armor, the Mechanized Infantry and the Airmobile Divisions. These divisions also have type of links with the Army (See Figure 2).

One way of describing the Infantry Division is that: it is a group of units whose job is to contact, capture and destroy the enemy. The Infantry does this by: a) conducting offensive operations, b) conducting defensive operations, and c) patrolling. These activities characterize the Infantry Division. Thus, in Networking, we use a solid line labeled "c" to indicate this characterize relationship (link). (See Figure 2).

The number of Division activities is so large that in many ways the Infantry Division (ID) is similar to a small city. Both the ID and a small city have units that deal with personnel, health, housing, education, security, communications, transportation, and even recreation. Thus, the ID can be considered similar to a small city and we can use an "s" link to show this similar relationship (link.) (See Figure 2).

One part of the ID is the NCO Academy. The NCOA is part of (p) the ID training program so it is linked with the ID by a "p" link. (See Figure 2). Soldiers who go through BNCOC at the NCOA have a better chance for promotion. We can, then, connect the BNCOC to this idea of promotions by a leads to link (a dotted line with an "l" in Figure 2).

Another feature of the ID is its many educational programs. The ID offers some type of educational program to all its people. Thus, we can say that education is another feature which characterizes the ID. We show this by

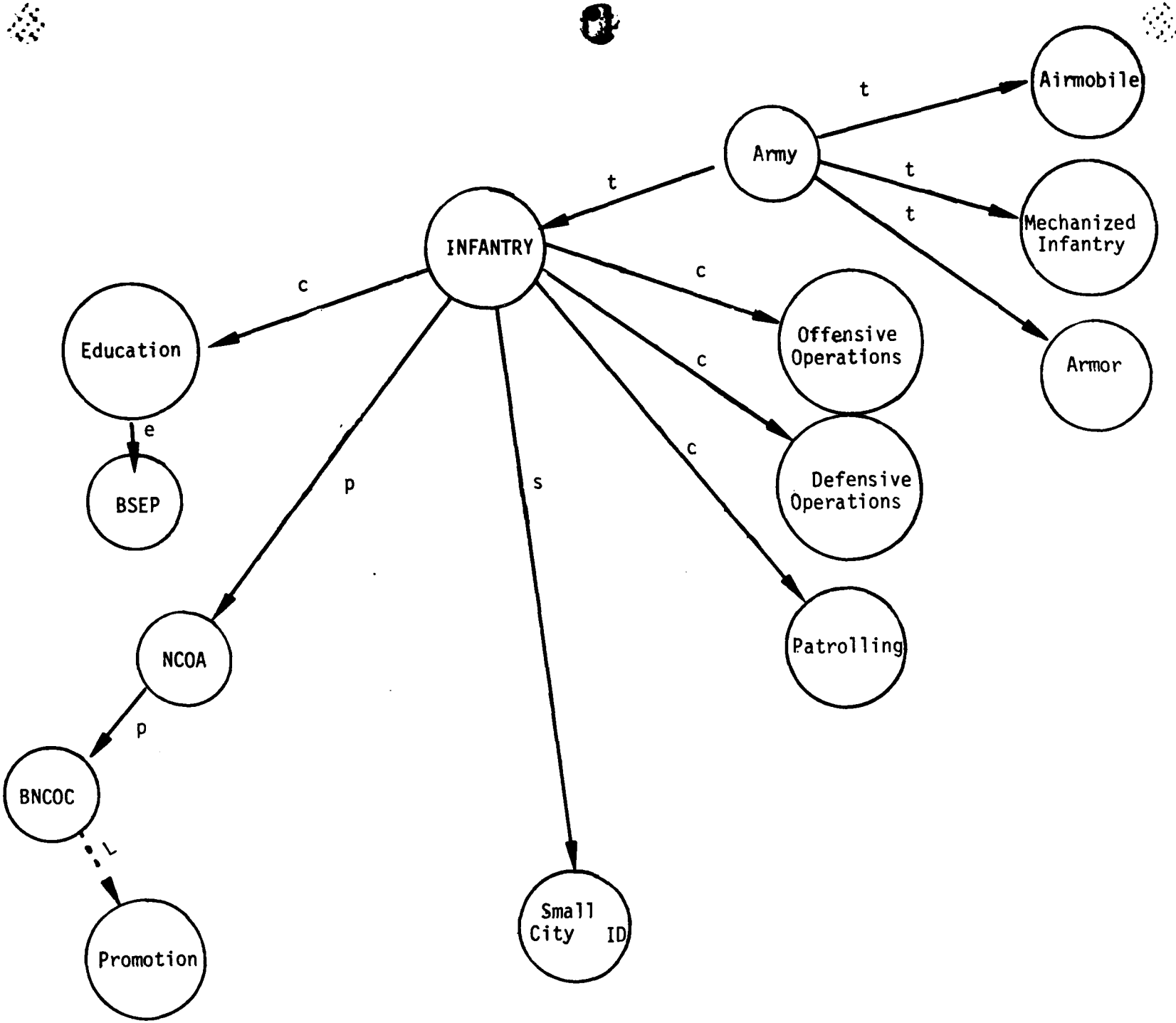

Army
Airmobile
Mechanized Infantry
Armor
INFANTRY
Education
BSEP
NCOA
BNCOC
Promotion
Offensive Operations
Defensive Operations
Patrolling
Small City ID
t
t
t
t
c
c
c
c
e
p
p
L
s

FIGURE 2

connecting ID and education with a solid line. Then we add the letter "c" (See Figure 2). There is much evidence that this is true. The BSEP Program is a big part of the education program in the Army. Hundreds of soldiers finish BSEP each year. This chance to learn leads to many other important jobs and schools that help soldiers get ahead. Thus, the chance to go to BSEP shows that the ID believes that education is important. We can, then, add an evidence link ("e") to show the relationship between BSEP and the ID education program (see Figure 2).

This discussion of the concept "Infantry Division" has pointed out six basic relationships or links. These links are present in any body of information. The links are:

1. part of (p)
2. type of (t)
3. leads to (l)
4. similar to (s)
5. characteristic (c)
6. evidence (e)

They form the building blocks of the Networking method. Your next question might be, "How are these building blocks used?" An example will show this best. Look at the two study techniques on the following page. On the left side of the page is an outline for a lesson on study habits. On the right side of the page is a Network for the same lesson.

STUDY HABITS

A. Introduction

B. Steps for Studying

1. Set the mood

   a. relaxation
   b. self-talk
   c. mental pictures

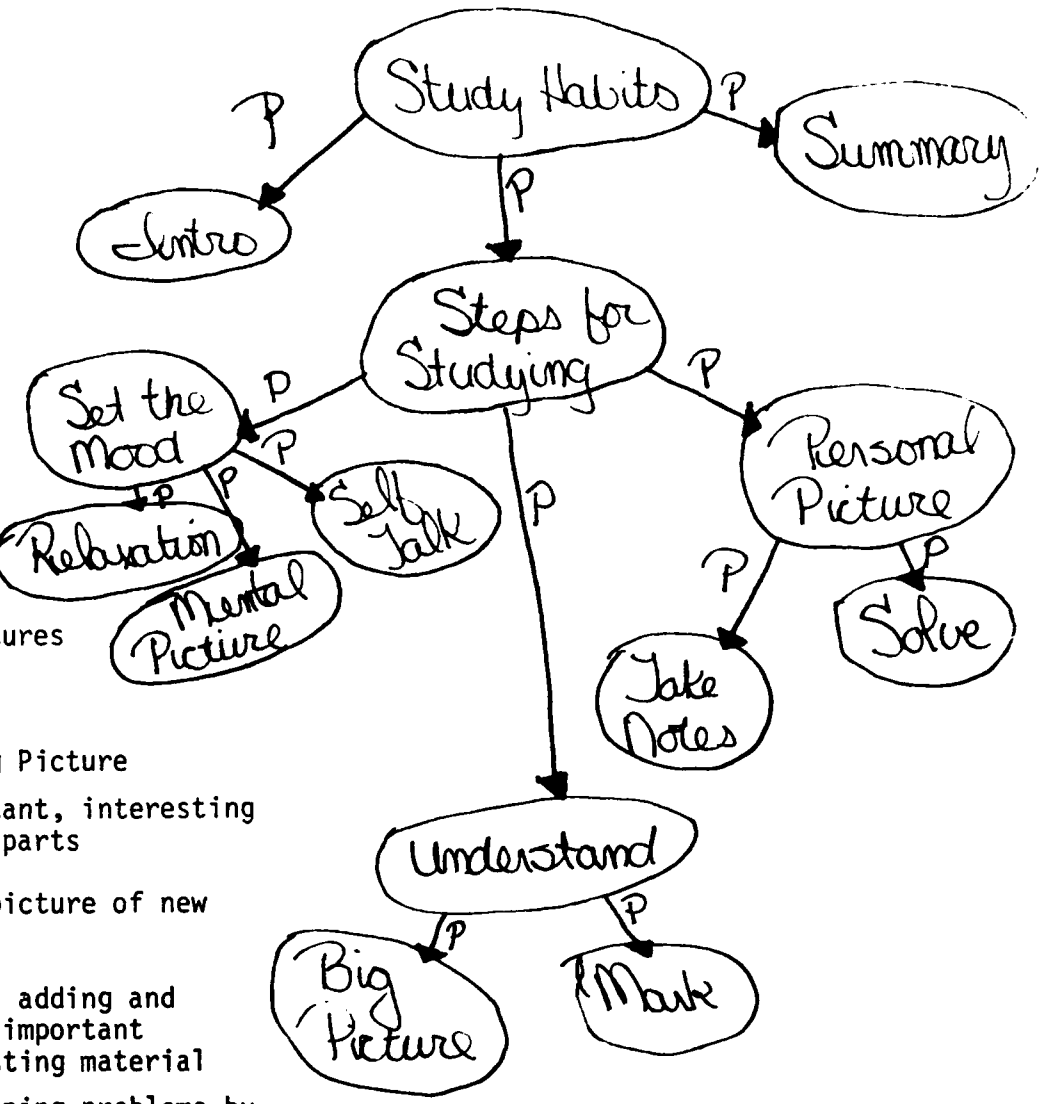
2. Understand

   a. get the Big Picture
   b. mark important, interesting or problem parts

3. Make personal picture of new information

   a. take notes, adding and organizing important and interesting material
   b. solve remaining problems by looking at small part of material

C. Summary



Thus, the building blocks of Networking are used to show the relationships (links) between ideas so that you can really understand what an author or speaker is trying to tell you. Now the question is "What are the specific steps that a reader or listener should take to make his own Network?"

In using Networking, you should take these steps:

1. Read and mark the section of material you are learning. You should mark or write down the important words and ideas. Then note the links (relationships) that exist between the ideas.

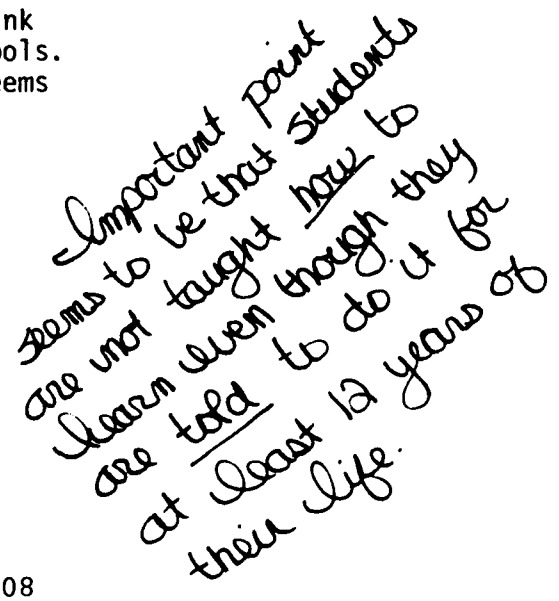
2. Network the information to organize the important ideas. In making your Networks, you should add personal comments, questions and pictures. This makes your Network your own. This will help you remember the material.

3. Read through your Network and memorize the important information. It will help if you try to picture the shape of the Network in your mind. (This third step will often be done when you are reviewing for a test.)

AN EXAMPLE OF HOW THE NETWORKING METHOD IS USED:

Here is a short passage on "learning." We have written a Network for it. It will provide a good example of how to organize material. If you have any questions, please ask your instructor for help.

Today many people in our country think we need some kind of change in our schools. One big problem in our school system seems to be that very few people know how to teach students how to learn. That is, it is often thought that students will learn just because they are asked or told.

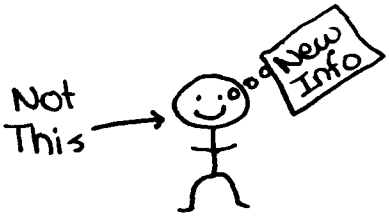


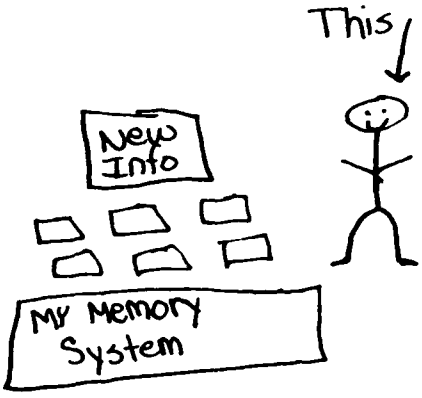
Even in first and second grade classes, you can find teachers telling their students to learn or read a lesson but giving them no hints on how to do this. The belief that the ability to learn is present at birth in every child is not true. It may be true that many children and adults do become good learners and students because of their hard work, but few schools do much to help students share these ways to learn.

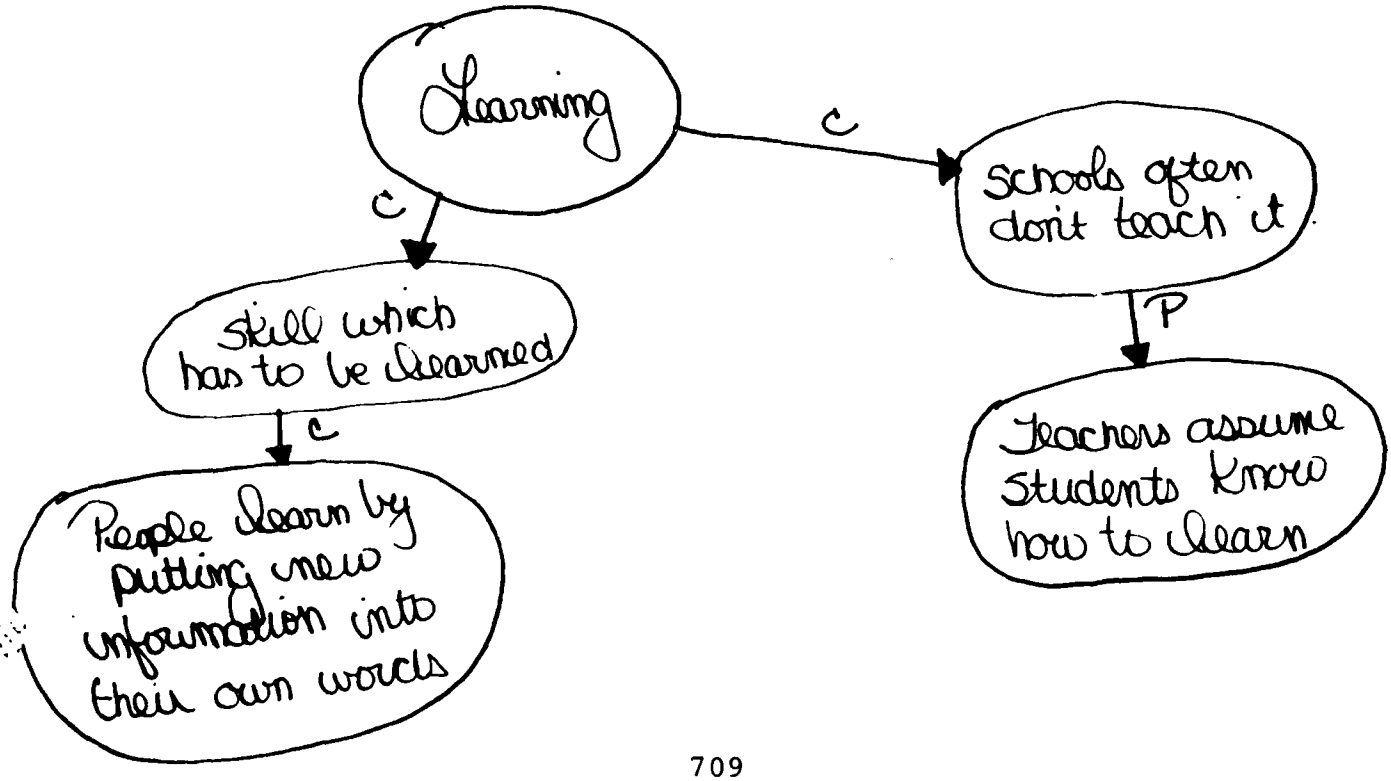
Some new research shows that to learn to be a good student, people use active methods to put new information into their memory system. They do not act as simple containers into which information is poured. That is, research shows that people learn new information when they change it to fit their personal memory system.

Learning is a skill which has to be learned and our schools often don't teach it

People learn by putting new material in their own words.







And that is all there is to Networking. There are, though, some key points about this method which you should keep in mind. Also, the next page is a Network of the Networking Method. See if you can understand it.

Some Important Points About Networking

1. Make as many links between important ideas as you can.

   The more links, the easier it is to "bring back" what you read. This is like traveling to a city with a lot of roads going into it. It's a lot easier to get into such a city than into one with a few access roads.

2. Networking can be used to organize material for papers and speeches.

   Make a map and then use it as an outline.

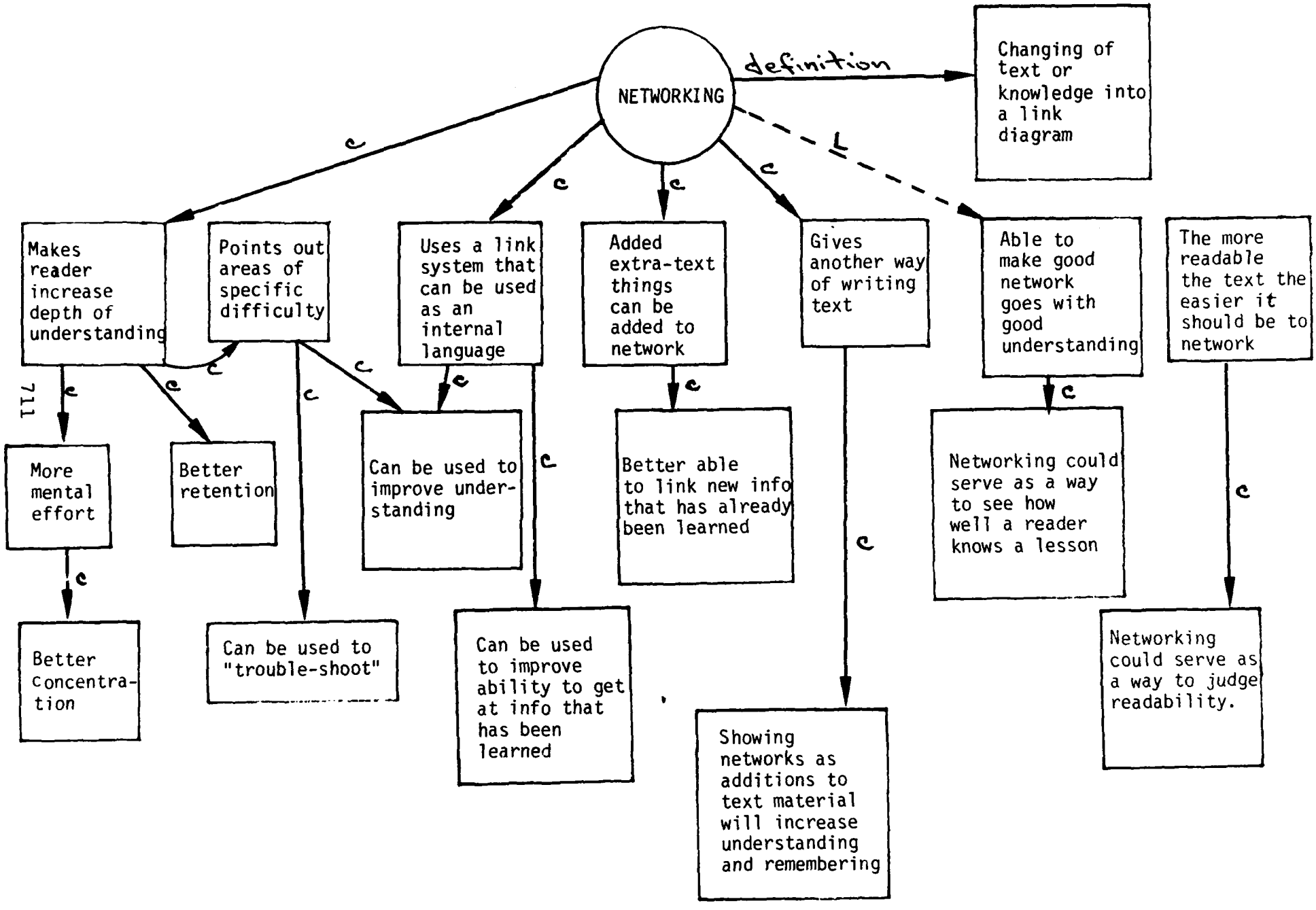
3. Learning to think in terms of links or relationships will help you remember even if you don't use the whole Networking method.

   It takes a little longer than one reading would take. But after the method is learned it probably takes even less time than studying by underlining or by taking notes. It is a much better way to read.

4. Networking is not magic!

   It will help you, but you have to put in the time and energy to learn it. It is a new skill and at first it will not feel very easy. (Remember how you felt when you first learned to drive a car!) After awhile, however, it will smooth out and you will become a master of the method.

5. Finally, one way to help things keep moving is to enjoy small gains; small victories over what you read, small ideas, etc. Enjoy it when when you remember something you didn't think you knew. Get excited about finding a link between two ideas that you had not thought of before! Feeling good about these small things helps to make learning fun!


NETWORKING
definition
Changing of text or knowledge into a link diagram
Makes reader increase depth of understanding
Points out areas of specific difficulty
Uses a link system that can be used as an internal language
Added extra-text things can be added to network
Gives another way of writing text
Able to make good network goes with good understanding
The more readable the text the easier it should be to network
711
More mental effort
Better retention
Can be used to improve understanding
Better able to link new info that has already been learned
Networking could serve as a way to see how well a reader knows a lesson
Better concentration
Can be used to "trouble-shoot"
Can be used to improve ability to get at info that has been learned
Showing networks as additions to text material will increase understanding and remembering
Networking could serve as a way to judge readability.

The next section on Problem Solving will complete your list of ways to deal with reading tasks.

PROBLEM SOLVING

Problem Solving involves 3 steps:

1. Figure out the problem
2. Gather information to solve the problem
3. Check and change the solution

Problem Solving also involves using worksheets to help you go through each of these steps. We will tell you more about those worksheets in a minute. First, let's talk about the three steps of Problem Solving.

The Problem Solving method is not going to make you understand everything you read. However, if you find something you don't understand and work on it, you will know a lot more about the topic. This works better than if you just read over the material two or three times. Why should we plan to learn anything by rerunning the same stuff through our head in the very same way? We learn by moving the stuff away from the author's words and into our own words and experience.

You can improve your understanding by following the steps we will show you. You may not understand all you read completely. You will though, learn how to remember key parts. Using this method will help you do better on any test you may have to take.

So, let's begin.

Step 1: FIGURE OUT THE PROBLEM. In understanding new information, there are four common problems: (a) word problems; (b) sentence problems; (c) paragraph problems; and (d) passage problems. But what, do each of these problem areas mean?

Common Problems in Understanding

1. Word - not understanding what a word means. It may be a technical word, unfamiliar word, or a common word used in an uncommon way.

2. Sentence - (group of words) not understanding the meaning of an individual sentence. It may be that the order of the words (sentence structure) makes it hard to read. Or you may not know the words themselves (vocabulary). It may be hard to figure out the subject or the topic of a sentence. Note: If you understand a sentence (its words, structure and topic) but don't understand how it fits with the paragraph, it's a paragraph problem.

3. Paragraph - (group of sentences) not understanding what a paragraph means. This may be due to (a) not being able to understand how the sentences fit in with the topic of the paragraph; (b) not being able to figure out the topic of the paragraph; (c) not being able to fit the topic of the paragraph in with the passage as a whole. Note: Do not work at the paragraph level until you have understood each sentence in the paragraph. You should work at the word or sentence level before moving to the paragraph level. Come to the paragraph level only after you understand each sentence in the paragraph.

4. Passage - (group of paragraphs) not understanding the main idea(s) of a passage. It may be due to: (a) not knowing the topic of the passage; or (b) not understanding how each paragraph fits in with the topic of the passage.

Note: Come to this level only after you understand each paragraph.

Okay, now if you are having a problem with reading, you can use this list of problem areas. The list will help you decide what kind of a problem you have. For example, don't begin at the paragraph level unless you understand each of the individual sentences in the paragraph. Don't choose a sentence unless you understand each of the words of the sentence.

Step 2: GATHER INFORMATION: You know what problem to work on. Now you are ready to get information to help you solve it. We have found three ways to get the information you need.

1. Breakdown - Look at the parts to understand the whole. This means you take apart the word, sentence, paragraph or passage. This helps you find out its meaning.

2. Surround - Look at the whole to understand the part. To do this, you look at what is close to the problem area (surrounding words, sentences, paragraphs, or passages).

   Begin as close to the problem as possible (the closest thing you understand). Then work into the problem. If this information doesn't help, go to the next closest part you understand. Continue this process.

3. Other Source - Look at another source to understand the part or whole. This may be the dictionary, another textbook, the instructor, or a fellow soldier.

To help you get information on your problem, we have made up several worksheets. There is one for each type of problem (word, sentence, paragraph, or passage). First, find the type of problem you have. Then use the worksheet that goes with your problem to get information. These worksheets are at the end of this lesson.

You will find other information on how to solve your problem at the end of each worksheet. You should read these extra hints. They help you to use all the information.

In other words, after you find where the problem is (word, sentence, paragraph, passage), use the worksheet that goes with that problem to get information. Use that information to make your best guess about what the problem area means.

Step 3: CHECK AND CORRECT. After you have made your best guess about the problem, you then test how good your guess really was. One way to judge your guess is to see if it fits with the rest of the material. If everything fits, you will have kind of an "Oh, yeah, this makes sense" feeling. Then your guess is probably right. If you can find something that still doesn't fit in with your guess, you can try again. If you are not sure of your guess, write that down on the worksheet under Step 3: Check and Correct. You can then try to get more information as you read more of the lesson.

It will help you to judge your Problem Solving skills after you make a best guess. Just write down any change you want to make in your Problem Solving method. For example, maybe you spend too much time on a sentence problem when you really needed to start at the "word" sheet.

Next, judge your reading method by how much you have learned. For example, if you change your reading speed, will you be able to learn more? Do you need to keep track of the main idea? Write some suggestions to yourself. Don't be upset if you are not sure of your changes. Your instructor is always ready to help you.

Thus, the three steps in Problem Solving are:

1. Figure out the problem.
2. Gather information (use a worksheet if you need it).
3. Check and correct.

These steps will be easy to understand when you read each of the worksheets. Be sure to read all the information that goes with each one. The worksheets are at the end of this lesson. After you use this method a few times you will find that you don't need worksheets as much. Just be sure to try this method a few times before you decide if it is "for you."

SUMMARY OF PROBLEM SOLVING METHOD

You may not feel that the worksheets meet your needs. Don't feel that you have to use them all the time. They are simply examples of ways to work on problems.

The chart on the next page summarizes the Problem Solving method. It may be your main source of help after you use it a few times.

Now it is time for you to practice with the worksheets that follow. The best way is to use them with something you want to learn about. You can, for example, use them to help you learn a task in a soldier's manual. Or you may try the worksheet by reading a field manual.

SUMMARY OF PROBLEM SOLVING METHOD

PROBLEM

		Word	Sentence	Paragraph	Passage
Always begin here	Breakdown	Prefix - Root - Suffix	Subject-verb; topic and comments	Sentences related to paragraphs; Topic of paragraph	Paragraphs related to passage; Topic of passage
Source of Information	Surround	Synonym; Examples; Other Words	Other sentences in paragraph Main idea of paragraph or paragraphs	Relationship between the paragraph and other paragraphs Topic of passage Table of contents, summary	Other parts of text
	Other Source	Glossary Dictionary	Other texts Other people	Other texts Other people	Other texts Other people
	Best Guess				

Choose a manual now. Then start with the "word problem" worksheet. Read a sentence in the manual and find a problem word. Then do what the worksheet says to do.

Use a pencil, so you can erase and use the worksheet again.

When you think you know how to do word problems, go on to the "sentence" problem worksheet. Use each worksheet to help you read the book or manual. When you have worked with all the worksheets, you can then compare this method with the other ones you have used.

If you want some help, ask one of the BSEP instructors. They will be glad to help you.

WORD PROBLEM

WORD PROBLEM

Step 1: Figure out the problem _____

Write problem here.

Step 2: Gather information.

a. Breakdown. Break the word apart. See lists of prefixes (beginning of word) and suffixes (end of word) on next page.

_____	_____	_____
prefix	root	suffix

b. Surround. Use information in other parts of the sentence or paragraph to define the word.

_____	_____	_____
synonym (another word that means the same thing)	example of word	other words that are like the problem word.

c. Other source. Look up the word or ask instructor.

Glossary (in back of a textbook) _____

Dictionary _____

Instructor _____

d. Best Guess. Guess the meaning of the word. Write the sentence in your own words.

Step 3: Check and Correct. Judge your Problem Solving Skills and write down the changes you want to make in:

Your best guess:

Your problem solving method:

Your reading method:

WORK PROBLEM (Continued)

COMMON PREFIXES AND SUFFIXES

Common Prefixes (beginning of word)

PREFIX	DEFINITION	EXAMPLE
ad -	(to)	adjust (become used to)
at -	(from)	attract (to draw from)
be -	(by)	beware (by care)
com -	(with)	comfort (with strength)
de -	(from)	depart (leave from)
dis -	(apart)	disjointed (joints are apart)
en -	(in)	enrage (to put in a rage)
ex -	(out)	exit (go out)
in -	(into)	inject (to send into)
in -	(not)	invalidate (to make not valid)
pre -	(before)	prejudice (before judgement)
pro -	(in front of)	promotion (move in front of)
re -	(back)	return (bring back)
sub -	(under)	submarine (under the water)

Common Suffixes (end of word)

SUFFIX	DEFINITION	EXAMPLE
- al	(relation to)	educational relation to education
- ance	(state of being)	compliance (state of complying)
- ate	(one who)	candidate (one who may be chosen for office, membership or honor)
- ate	(to make)	violate (act of breaking a law)
- cion	(action)	coercion (the act of forcing)
- est	(comparison)	largest (comparison of size)
- ian	(relating to)	amphibian (relating to fish)
- ic	(like)	artistic (like an artist)
- lous	(abounding in)	ridiculous (abounding in humor)
- ize	(to make)	criticize (to make a critic)
- ism	(act of)	cannibalism (act of being cannibal)
- less	(without)	meaningless (without meaning)
- ness	(state of being)	happiness (state of being happy)
- ster	(one who)	gangster (one who is in a gang)
- ure	(act of process)	architecture (process of being an architect)

WORD PROBLEM (Continued)

SURROUND

Look through other parts of the paragraph or passage for clues. Look for:

1. a synonym - the author may define the word by using another word which has a similar meaning.

2. an example - the author may give you an example of the word. You may be able to define the word based on this.

3. other words - the author may give you clues to the meaning by words throughout the passage.

SENTENCE PROBLEM

SENTENCE PROBLEM

Step 1: Figure out the problem: _____

_____

Write the sentence here.

Step 2: Gather Information.

a. Breakdown. Break the sentence into parts: (a) subject-verb or (b) topic and comments. See next page for help.

_____	_____	_____
subject	verb	other

_____	_____
topic	comments on topic

b. Surround. Use other sentences in the paragraph to figure out the problem sentence. Use the topics of the paragraph or other sentences to figure out the sentence. See page 37 for help.

c. Other Source. Use information from other books, lessons or people.

d. Best Guess. Write sentence in your own words.

Step 3: Check and Correct: Judge your Problem Solving Skills and write down the changes you want to make in:

Your best guess:

Your problem solving method:

Your reading method:

BREAKDOWN

1. Subject-Verb - Many people have trouble figuring out the subject of a sentence. The order of the words is often the best clue. The subject is often at the beginning of the sentence. It is often followed by the verb which tells you something about the subject. Look at the example below:

The chopper landed in the field.

clue means noun follows

verb ending

2. Topic Words - What is the sentence about? For example, is the author telling you about school or cars? And what is the author trying to tell you about this topic?

Example: Besides an airlift of HU-1 helicopters, there will be a road convoy.

topic

SURROUND

A pronoun (this, he, she, it, they) is often used to refer to a word used in an earlier sentence. Keep track of what each pronoun is referring to. Also, the author may continue the same topic or a related topic from sentence to sentence.

Example:

The infantry must use many kinds of weapons in all types of combat. It must be able to fight any where at anytime. This ability is what we call being ready.

Topic

topic

PARAGRAPH PROBLEM

PARAGRAPH PROBLEM

Step 1: Figure out the problem. (Write out the paragraph <u>if</u> you need to.)

Step 2: Gather information.

a. Breakdown. What is the author telling you? Link these ideas in an outline or Network. (See next page). To learn the meaning of the paragraph, break it into sentences.

b. Surround. Use information from other paragraphs. Find out how this paragraph links to the rest of the passage. You need to figure out the main idea of the passage and the links between paragraphs. (See next page).

c. Other Source. Use information from other books or talk to other people or instructors.

d. Best Guess. Write the paragraph in your own words or outline it.

Step 3: Check and Correct. Judge your Problem Solving skills and write down the changes you want to make in:
Your best guess:

Your problem solving method:

Your reading method:

Maybe you have found out the topic or main idea of the paragraph, but don't know how the sentences relate to the main idea. If so, use the information on the next page to help you.

If you have <u>not</u> found out the topic or main idea of the paragraph, the information on page 41 may give you some clues.

HOW ARE SENTENCES RELATED TO THE TOPIC (MAIN IDEA) OF THE PARAGRAPH

1. The sentence may restate the main idea of the paragraph in different words.

2. The sentence may contrast the main idea of the paragraph with another idea.

3. The sentence may give examples or illustrations that support the main idea of the paragraph.

4. The sentence may provide evidence for the main idea of the paragraph.

5. The sentence may be a result or outcome of the main idea.

6. The sentence may simply describe the main idea of the paragraph.

7. The sentence may contain a subtopic (a part of) the main idea.

8. The sentence may contain details that are not important and which do not belong in the paragraph. Such a sentence should be disregarded.

If you are not able to find the topic or main idea of a paragraph, use the guidelines below:

FINDING THE MAIN IDEA OF A PARAGRAPH

1. Read the first sentence of the paragraph. It has the main idea about 80% of the time.

2. If this is the topic sentence, think what the paragraph is going to be about.

3. See if the rest of the paragraph tells you something about this topic.

4. If the paragraph does tell you something about this topic then it is the topic sentence. Put the idea into your own words.

5. If the first sentence doesn't have the main idea, see if you can find the topic sentence. The next most likely place for it to be is at the end of the paragraph.

6. See if any phrase or sentence states a main idea.

7. If the topic sentence can't be found, find some key words or phrases. Put them together to see what they say. Then write a topic sentence of your own.

PASSAGE PROBLEM

PASSAGE PROBLEM

Step 1: Figure out the problem.

Step 2: Gather information.

a. Breakdown. Break the passage into paragraphs. Figure out the topic of each paragraph. (See next page). Figure out the topic of the passage. Figure out the links between paragraphs and the topic of the passage. (See page 45). Use outlining or Networking to organize your ideas.

b. Surround. Look in other parts of the book. Try the previous section, following section, overview, table of contents, summary, objectives.

c. Other Source. Read other texts or talk to other people or instructors.

b. Best Guess. Write an outline or Network of the passage.

Step 3: Check and Correct. Judge your Problem Solving skills and write down the changes you want to make in:
Your best guess:

Your problem solving method:

Your reading method:

PASSAGE PROBLEM

Use the guidelines below to help find the topic of each paragraph.

HOW TO DETERMINE THE TOPIC OF A PARAGRAPH

1. Read the first sentence of the paragraph. It contains the main idea about 80% of the time.

2. If this is the topic sentence, think what the paragraph is going to be about.

3. See if the rest of the paragraph tells you something about this topic.

4. If the paragraph does tell you something about this topic then it is the topic sentence. Put the idea into your own words.

5. If the first sentence doesn't have the main idea, see if you can find the topic sentence. The next most likely place for it to be is at the end of the paragraph.

6. See if any phrase or sentence states a main idea.

7. If the topic sentence can't be found, find some key words or phrases. Put them together to see what they say. Then write a topic sentence of your own.

If you have found the topic of a passage but can't link the paragraphs to it, use the guidelines below.

"Relationship Sheet"

HOW ARE PARAGRAPHS RELATED TO A TOPIC?

1. The paragraph may restate the main idea of the passage in different words. The main idea of the passage as a whole and the main idea of the paragraph may be IDENTICAL, that is, just alike. Sometimes, two paragraphs say the same thing in different words. They share the same main idea.

2. Different paragraphs may contrast the main idea of the passage with other ideas. This is done by telling how the main idea is different from the others. The paragraphs might compare two ideas. This is done by telling how one idea is like another idea. In short, look for how the author compares and contrasts ideas.

3. More than one paragraph may give examples of the main idea of the passage. A paragraph may talk about an idea which is part of or a type of the idea that passage talks about.

4. Some paragraphs state a principle. Other paragraphs give reasons for this principle. These other paragraphs may give proof that supports the principle.

5. Paragraphs that give a principle may also be followed by paragraphs with more information about it. They can tell about results of the actions or ideas stated in the principle.

6. Paragraphs may describe or qualify the main idea.

7. Paragraphs may develop subtopics of the main topic of the passage. Each paragraph would then be related to the main idea by being a part of it.

These seven links between paragraphs and the topic of the passage are just a few of many you can think out. They are the major relationships. They should help you find out how the author organized the material.

If you can't find the topic or main idea of a passage, use the guidelines below.

HOW TO FIND THE TOPIC OF A PASSAGE

1. Find out the topic of each paragraph.

2. Think about how these topics are related. (What information does each paragraph contribute?) See the relationship sheet on the previous page.

3. Write one or two sentences that tell about the topics of each paragraph. This is your statement of the topic.

SUMMARY

You have now used all three of the reading methods. They are:

1. Questioning

2. Networking

3. Problem Solving

As we said, one, two, or all of these may work for you. Or, you may want to combine two or three of them. You need to choose the best one for you. Then use it when you read to learn. One way to choose is to try each method for three or four days. Then choose the one that feels best to you.

Remember that your instructor will help you with any of these methods.

ACKNOWLEDGEMENT

This lesson is taken from Study Skills Package: Development and Evaluation by J. L. Dobrovolny, B. L. McCombs, and W. A. Judd. Where appropriate the language has been changed to make the material applicable to the Army population for which it is intended. Some of the ideas, concepts and examples of memorization presented in this lesson are from Learning Strategy Training Materials: A Selected Subset, and Systematic Training Program for Enhancing Learning Strategies and Skills: Further Development by D. F. Dansereau, K. W. Collins, B. A. McDonald, G. Diekhoff, J. Garland, and C. S. Holley, and Field test of a revised form of the cognitive learning strategies training program with Army enlisted personnel by C. E. Weinstein, M. M. Rood, C. Roper, V. L. Underwood, and F. W. Wicker.

MEMORY SKILLS

The Objective for this lesson on Memory Skills is:

You will be able to add to your memory skills.
You will do this by using mnemonics such as elaboration, mental pictures and grouping.

Research shows that people are active learners. They work with and think about what they are trying to learn. In the past, we thought that people were almost like big cans. We thought that they just sit still and fill up with information. Teachers thought that students had to just sit there while they filled their heads with new facts and ideas. But that's not true. When someone tells you something or when you read something, you think about it. You remember some parts better than others. You learn things quicker when you are interested in them and when you know a little about them. Things that are dull and strange take more work.

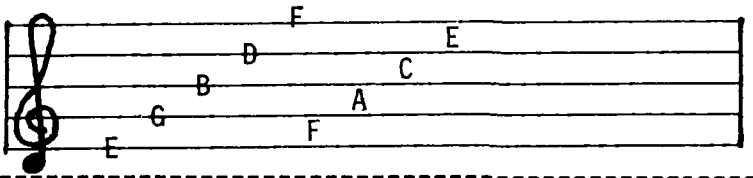
Another fact is that you are always students and you will always learn new things each and every day. In fact, sometimes you learn a lot more than you think you do. For example, think of your favorite football or baseball team. You have probably learned some, if not all, of the players' names and positions. You've learned the names and ranks of your friends since coming into the Army. You've also learned your way around Ft. Ord. We all learn new things every single day. Yet, some learning, especially learning stuff from manuals and notes, can sometimes be hard and dull.

But, it doesn't have to be like that. It can be fun! Much of the study that has been done on memory skills shows that there are easy and fast ways to remember. That's what you will learn -- ways to help yourself be better at the task of learning new things.

There are many kinds of learning aids that you may have used for years. You may not know that what you were doing was helping yourself learn something. One of the first aids that you may have used was the alphabet song -- "A, B, C, D, E, F, G...." This was a good aid because it made the alphabet easier to

learn and to remember. Even that was pretty hard to do when you were five or six years old.

Here is another learning aid for those of you who were into music. Remember the phrase "Every Good Boy Does Fine?" It stands for the lines that music notes are written on: (E, G, B, D, F). The word "FACE" told you which notes go in the spaces between the lines.



So, you see, this is not all new to you. What is new is the way you will use these ideas.

The name for these learning aids (tricks, skills, methods or whatever you want to call them) is MNEMONICS (nē-mon-ics) or MEMORY AIDS. In this lesson, you will learn about three kinds of Mnemonics: elaboration, mental pictures, and grouping.

ELABORATION

Elaboration helps you remember things by adding to things that you already know. For example, some people learned to spell the word "ARITHMETIC" by remembering the sentence, A Rat In The House May Eat The Ice Cream. When you put together the first letter of each of the words in this sentence, you will spell the word "ARITHMETIC."

Another example of this type aid is the word that you can use to remember the formula for shifting fire from a known point. The formula is:

$$\frac{W}{Rm}$$

It might be hard to remember this line as it is. By using an elaboration word, it is much easier: WORM stands for Width Over Range · Mils. So, you use each of the letters in the word to remind you of the formula.

Another aid you may already use is the word SALUTE. This word helps you remember what to report about the enemy.

Size
Activity
Location
Unit
Time
Equipment

Another way to remember the same thing is to say: Sarge Always Leads Us To Eat. Then take the first letter of each word to make a report.

Another kind of elaboration is one you can use when you arrive at a new post. It can help you remember where certain buildings are on the post. For example, let's say that you just got to your next post and you want to remember where these buildings are located.

Swimming pool	-	River Blvd.
Craft Shop	-	Carswell Blvd.
EM Club	-	Highland Street
Commissary	-	Locke Street
Theater	-	Silver Street
Snack Bar	-	French Blvd.

Here's a way to remember where the swimming pool is: by remembering that both the pool and river have water; and that somewhere along the way the water that is in the swimming pool was once in a river.

Another example would be to link the Craft Shop with Carswell Street. Remember that your favorite hobby (or the favorite hobby of someone you know) is working on your car. You could remember that the Theater was on Silver Street by remembering that it takes money (silver?) to get into the theater. Finally, you could link the Snack Bar with French Blvd. by remembering that french fries are served there.

Look at the rest of this list. Once more, what you need to do is to think of some way to bring the two words together so that you can remember

the street name. What would some elaborations be for these pairs?

EM Club	-	Highland Street
Commissary	-	Locke Street
Gym	-	"A" Street
PX	-	Main Street

Remember, this is a way to use things that you already know to help you learn what you are trying to remember.

MENTAL PICTURES

The next kind of memory aid you can learn is "mental pictures." This is a fun way to link words and ideas by making pictures in your mind. Here is an example you may try. Let's say you want to learn how to tell when your squad is hit with gas. This is a part of a task in your soldier's manual. It's called "Recognize a CB Hazard." CB stands for Chemical/ Biological. First, you know that gas may come from a big blast near you. So start by making a mind picture of a mortar round blowing up in front of you. See a big blast with lots of smoke going up (smoke is a sign to look for). Now watch the smoke change into a big nose running away. Really see a great big nose with two legs that are running. (A running nose is another one of the signs to look for.) Now watch as the nose drags your Sarge behind it. Sarge is pulled by a noose around his neck and chest. Old Sarge is choking so bad his eyes bulge out. (Choking and a tight chest are more signs to look for.) Now, in your "mind flick," put a blind fold on those big bulging eyes. (Remember that gas makes it hard to see.) Then watch as great big tears flood from the bulging eyes. (This is another sign to look for.) Now, watch as ole Sarge huffs and puffs to keep up with the running nose. He is breathing real hard. (This is the last of the key signs of a CB attack). Now, sit back and watch the whole show. The blast and lots of smoke. A nose runs out of the smoke pulling Sarge. The noose around his neck and chest is choking him. His eyes bulge out. You see the blind fold and great big tears. And then see how he huffs and puffs. Now you can tell anybody how to know when there is a CB attack:

- Mortar, rocket or artillery fire.
- Smoke, mist or vapor
- Running nose.
- Choking and/or tight chest.
- Dimming vision
- Irritated eyes
- Heavy, hard breathing.

See how easy this is?

You can also use mental pictures to help you remember the buildings on the new post that we talked about earlier. For example, since both pools and rivers contain water, you could see a pool being filled up with river water. Since rivers are often not very clean, you might see the pool fill up with beer cans, fish and tennis shoes along with the water.

Think about how the idea swimming pool and river might connect for you. It's very important to really think about your picture or story. Picture it clearly in your mind. You can make your picture as detailed and silly as you want. The more you think and concentrate, the better you will learn.

Remember, what we're doing is making up a mental picture or story which shows one thing doing something with another. If someone walked up to you and said, "Hey, where's the swimming pool?", you could picture in your mind a dirty pool with a lot of people in bathing suits standing around the pool holding their noses. Then you could say, "The swimming pool is on River Street."

Let's take another example: 'Craft Shop - Carswell Blvd." The Craft Shop has lots of kinds of tools and equipment. One thing many people use the Craft Shop for is to work on their cars. So, you can link hobby with car repairs. A good picture of this might be a big building with a few open garage doors across the front. The words "Craft Shop" are painted above the doors. You can see people in each of the stalls working on their cars. In other words, when you decide to go to the Craft Shop, you picture all those cars and know that you need to go to Carswell Blvd.

Let's look at the rest of the list. What are some good, active mental pictures for:

Commissary - Locke Street	Commissary is like a Safeway; a safe has a lock
EM Club - Highland Street	EM Club/booze/high
Theater - Silver Street	Theater/The Silver Screen
Snack Bar - French Blvd.	French fries at the Snack Bar

Another example of the use of mental pictures to remember things is called "one is a bun." It is an aid that rhymes and you can use it to learn lists of things in order. You'll see what we mean in a few minutes. Right now, look at these number-word rhymes.

One - Bun
Two - Shoe
Three - Tree
Four - Door
Five - Hive

The first step in using this aid is to remember which words go with which numbers. That should be easy. You might know some of them from the rhyme: "one-two, buckle your shoe; three-four, shut the door; five-six, pick up sticks; seven-eight, close the gate; nine-ten, a big fat hen." They all rhyme in a way that's easy to remember.

Take a few minutes now to learn the words that go with the numbers. Once you know the words, we'll show you what to do with them. Use a pencil and paper to test yourself. Go ahead; if you have any questions, just ask your instructor.

The next step in using this memory aid is to get your imagination working. Once you've done these two things, the rest is fun. Here's an example. Here is a list of brands of beer you may know:

1 - Lone Star	4 - Budweiser
2 - Pearl	5 - Schlitz
3 - Coors	

What you are going to do is to learn this list of beer brands, in order. You will use the memory aid "one is a bun." So if we asked you, "What is the 3rd brand on the list?", you would be able to remember that it was Coors right away.

Okay, here's how you do it. You've learned the words that go with the numbers 1 through 5. One-bun, two-shoe, three-tree, four-door, five-hive. Now comes the fun part - using your imagination. Number one on the list is Lone Star. In the rhyming memory aid, the number one is a bun. Now, get a really clear picture in your mind of a bun doing something with a Star. Picture an active scene, one that's really doing something. For example, it would be okay to imagine a star between two halves of a bun--a star sandwich. It would be even better to imagine someone that you don't like biting down into a tin star sandwich. See him breaking all of his teeth. Give this a try. Close your eyes and get this picture as clear in your mind as possible. Someone is sitting in the snack bar with a star sandwich. He bites down on it. His teeth crack and break. Boy, he looks silly! The important parts of this picture are the bun and the star. This might sound kind of silly but there's a good reason for that. It is kind of silly and that helps you to remember it.

The idea is that beer brand #1 is Lone Star. Since one is a bun, we want to put Star and Bun together. If I ask you, "What's the number one beer on the list," you would think, "one is a bun." Then you picture, in your mind, the scene that you imagine which put star and bun together. Another example of what you might picture could be a great big star, sitting at a table in a nice restaurant eating a hamburger bun. The bun is the size of a truck tire. Remember, make your mental picture an active one. Make it a crazy one if you want to. Make it one you'll be sure to remember.

Let's look at #2--Pearl. Remember now, two is a shoe, so you want to see a shoe doing something with a pearl. For example, see a large white pearl with skinny legs marching in a parade. The pearl is wearing a pair of bright orange shoes that are bigger than the pearl itself. Or imagine a great big shoe, the size of a house. The shoe is falling from the sky and hits a white pearl the size of a man. Again, give this a try. Close your eyes and see a

man-sized pearl sitting in the middle of a field. All of a sudden you see a house-sized shoe falling from the sky. It breaks the pearl into a million pieces.

Again, this sounds crazy, but that's good. The sillier, more active, the better. It helps you to remember. If I asked you, "What's the number 2 beer brand?", you could say to yourself: "two is a shoe." Then you could see that pearl being smashed by the huge shoe from the sky. The answer would be Pearl.

Let's practice this a little more because it's important. Remember, our goal is to learn the five beers on the list in order. Now not all of these brands will be that easy. You may need to change the beer name a little to get a good picture. For example, number 3 on the list is Coors. But the word "Coors" doesn't really call up a picture like star or pearl do. So, if we find a word similar enough to Coors, it will still work. For example, by changing the first letter from "C" to "L," we have "Loors"-like you use when fishing. So your picture can have a tree (three is a tree) doing something with lures. This sounds enough like Coors to help you to know that brand #3 is Coors.

Again, see a scene where a tree is doing something with a fishing lure. You might see yourself casting into a river and getting your lure caught in underwater tree limbs. It would be even better to see a scene in which you cast your best lure. Then just before it hits the water, a tree jumps out and grabs your lure and stuffs it into its mouth. When I ask, "What's the third brand of beer?", you could remember that "three is a tree." Then remember the image of a tree grabbing your lure and that will remind you that #3 is Coors.

Let's go on to #4 - Budweiser. Again, you will need to do something with the word. How about using Bud Man? Since four is a door, we need to have a scene in which a door does something active and exciting with Bud Man. Close your eyes and make a picture of a door and a Bud Man. Take some time now to do that.

How about #5--Schlitz--five is a hive? Make that picture now.

Now, to make use of what we've done, try to recall the list in order. You can do this by thinking of brand #1--"One is a bun." Then think of the image you saw that had the bun. Ours was a star sandwich breaking some teeth. Now, two is a shoe. You remember the shoe crushing the pearl.

Three is a tree - (grabbing the lure) - Coors

Four is a door - Bud

Five is a hive - Schlitz

That's all there is to it. You've learned the list in order. Although this list was pretty easy, it works just as well with longer lists and more difficult items. For example, you can use it for things that you have to learn out of a tech manual or field manual.

When you put elaboration and mental pictures together, it will help you a lot. The next example shows you how to do this. See yourself in this situation. You have borrowed a friend's apartment for the night, and you have a really sharp date. You plan to "wine and dine" your date at the pad before a late flick. Here's the list of things you want to have:

Wine

Crackers

Cheese

Charcoal

Charcoal Lighter

Steaks

Potatoes

Corn on the Cob

Lettuce

Tomatoes

Green Onions

Cherry Pie

There is no need to write down a list of any kind. Even one this long or longer is easy to learn. Just use mental imagery and elaboration together. Imagine your great night in your mind while you shop for the things on the list. Your mind flick might go like this. The doorbell rings. That special someone comes in and the first thing you do is offer a glass of wine. (Ah Ha, wine is #1 on the list). While you talk, you offer the cheese and crackers (#2 and #3 on the list). After awhile, you start the fire (charcoal and charcoal lighter, #4 and #5). When the fire is ready, you put the steaks and potatoes on to cook (#6 and #7); while that's cooking, you put the corn (#8) on to cook. Then you ask your special friend to make the salad out of lettuce (#9), tomatoes (#10) and onions (#11). Now see yourself at the table. As you look at your plate, all of your food items are there: steak, potatoes, corn on the cob, and salad. Then, you serve the cherry pie (#12) for dessert. You've learned your list without really trying!

GROUPING

Grouping is the third type of mnemonic that we want to tell you about. This learning aid is based on the idea that when you break long lists into smaller pieces it makes them easy to remember. For example, your social security number has nine numbers. If you had to know each of these nine numbers in the exact order it might be kind of hard. But for most of us, it is easy to remember. We just break it down into three groups. The first group has three numbers. The second group has two numbers. And the third group has four numbers. Say your number to yourself and see. It is easy to remember this way.

Another example of grouping is how you learn telephone numbers. Phone numbers have seven digits. That by itself might make it hard to remember. But you break those seven numbers into two groups and that makes it easy to remember like 394-4276.

Grouping can also be used to learn the steps of a set procedure. For example, the SQT task "Stop Bleeding" may seem hard. It is easy to remember

when you break the task down into six steps:

(a) Check Wounds
(b) Cut Clothes
(c) Don't Touch
(d) Bandage Wound
(e) Hand Pressure

You can then use elaboration to learn these steps. For example, use the first letter of each of the words in the steps to make C-W, C-C, D-T, B-W, H-P. Then to remember CWCCDTBWHP, put these letters into a sentence: Crazy Wars Can Cut Down The Big World's Happy People. So, the steps to stop bleeding are CWCCDTBWHP or Crazy Wars Can Cut Down The Big World's Happy People.

Since you have learned a lot of new ideas in a short period of time, let's review. We've talked about three different types of mnemonics that can really help you learn new things more easily and quickly.

These are:

1. Elaboration - make sentences and stories that make new ideas mean more to you. This links new ideas to what you already know. Think about the example of the Snack Bar on French Street (french fries).
2. Mental Pictures - make pictures in your head that link words and ideas. Remember the list of the five brands of beer.
3. Grouping - break long lists or steps into small pieces. Then using imagery and elaboration to learn them. Remember the list of steps to stop bleeding.

These aids will help you to remember your grocery list as well as your soldier tasks. When you think about it, most of the new things you have to learn and know come from what you read--like paragraphs, lessons, and chapters. The next time you sit down to read, you may use elaboration, mental pictures or grouping to learn the new things.

Now you have a few more ways to read and learn. Using these aids may take a little more time at first. When you get used to them, you will be surprised at how fast and easy you can learn. Using these aids is a lot better than some of the old ways you tried to read. Keep using these aids. You will enjoy it!

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LEARNING STRATEGIES: CONCENTRATION MANAGEMENT

ACKNOWLEDGEMENT

This lesson is taken from Study Skills Package: Development and Evaluation by J. L. Dobrovolny, B. L. McCombs, and W. A. Judd. Where appropriate the language has been changed to make the material applicable to the Army population for which it is intended. Many of the ideas, concepts and examples of concentration management presented in this lesson are from Learning Strategy Training Materials: A Selected Subset and Systematic Training Program for Enhancing Learning Strategies and Skills: Further Development by D. F. Dansereau, K. W. Collins, B. A. McDonald, G. Diekhoff, J. Garland, and C. S. Holley, and Field test of a revised form of the cognitive learning strategies training program with Army enlisted personnel by C. E. Weinstein, M. M. Rood, C. Roper, V. L. Underwood, and F. W. Wicker.

The objectives of this lesson are:

1. You will know the difference between good learning moods and bad learning moods.
2. You will use ways to change your bad learning moods into good learning moods.

Setting a Good Mood

Most of you know that when you're in a good mood, learning seems to go more easily. You can do more work in less time, you feel better, think better--all those good things. What is not as well known is that you can change your mood. We have found that some people think moods are made by things outside of their control. They think other people or things make their mood. This is not true! MOODS ARE CONTROLLED BY WHAT YOU THINK OR TELL YOURSELF.

Let's look at some ideas that make up "bad" study moods. We mean those moods that hurt our learning. And we will look at those feelings that make up "good" learning moods.

Feelings that go with bad learning moods are: anger, fear, boredom, stress, sleepiness, self-pity, guilt, and lack of self confidence. You probably have had these at some time or another when you try to learn. You know these feelings can ruin a good learning mood. Often you just quit. Sometimes you stick with it but you don't get far because you are tired and feeling uptight. Sometimes you can force yourself to ignore these feelings. But even then, they get in the way of your learning. They slow down your thinking and cause you to daydream or get confused.

Feelings that go with good moods--happiness, excitement, fun, hope, confidence, alertness--can lead to a good or poor learning mood. It depends on whether or not the feelings are linked to learning. For instance, if you're excited about what you're reading, you are into your work. But if you're excited about what you're going to do later that

evening, you may be in a bad study mood. "Bad" means the feelings lead you away from a good useful session.

In short, what are usually thought of as good feelings (such as happiness or excitement) do not make a good learning mood if they are not tied to what you are learning. So, you may be feeling happy and still be in a "bad" mood to learn. This is true if your happy feelings do not have anything to do with what you want to learn.

The best learning mood is one where you are relaxed yet alert. Your head is clear of the hassles of the day. You are full of energy and ready to start. What is great is that you can make this mood for yourself.

Study shows that when you expect something to happen in a certain way you will do things without thinking. And these things make sure that what you expect comes true. This means that if you think you are going to have a bad time learning, you will do things to make yourself unhappy. You do them without knowing and then what you expect comes true. This same thing happens over and over again in almost everyone's life. Some people have built up the idea that they are not very smart. They do things to make sure that this idea comes true. They will think less of themselves. They become upset when they have a problem. And they do poorly on tests. This is what is often meant by the "self-fulfilling prophecy."

The result of all this is that some people get caught in a no-win game that makes their learning unhappy and unproductive. Their negative thoughts or feelings about everything cause them to have bad experiences in learning. These then cause their feelings and thoughts to be even more negative. And around and around they go--getting nowhere!

How do you get out of this? One way is to look closely at what you feel and believe about yourself. Look at what you think about the Army, life and learning. When you look at these feelings and how they link with your life goals, you can often make big changes. Many thoughts about life

and your ability to learn were made when you were young. We know now that these thoughts were not made in a smart way. They were made from a lot of different experiences and conversations. Most people have not looked at their feelings and where they came from. Once you do this, you find that many thoughts don't make sense or are out of date. Making new attitudes and beliefs that are in line with your goals and recent life experiences will help your learning be more fun.

So, one set of things to talk to yourself about is your attitude toward learning, thinking, life and school. And also talk about your attitudes toward your abilities and motivation. You will make positive attitudes and your learning will be more fun and useful. You will get the most out of the time you spend learning. And you will not waste time doing it!

In summary, your learning mood starts before you ever sit down to learn. The things you tell yourself about learning, and your ability, make your attitude or mood. This attitude or mood will have a lot to do with how you learn. The way to deal with this is to look at what you say to yourself before starting to learn.

If all of this does not seem clear, read on! You are going to see how to set a good mood and how to keep a good mood. You will do this by using some concentration exercises. These exercises will show you how to turn a bad mood into a good mood. You will read a sentence or two about the thoughts of a person who is in a bad mood to learn. Then you will write down how you would talk yourself out of this bad mood if you were that person.

Before we start these exercises, we will say something about relaxing. Earlier we said that it is best to learn when you are relaxed yet alert. Some people say they get uptight every time they sit down to learn. These same people also say they don't know how to relax.

If you are tense or uptight you can relax this way: take in a very deep breath, hold it for two or three seconds, then very slowly let it out. It is best to repeat this deep breathing one or two times. A lot of people find that when they slow down their breathing like this, their heart rate slows down and they stop being uptight. Here are the exact steps for Slow Deep Breathing.

SLOW DEEP BREATHING

1. Don't think about learning for 20 to 30 seconds. A few seconds won't cost you anything, and it may gain you much.

2. Sit back or slump into a position that is comfortable and relaxed. Close your eyes.

3. Relax all the muscles of your body. Don't do a halfway job. Relax entirely and all over. Don't try to relax so much as just let go of all muscles and tension. Let them go loose and heavy. A good way to help this along is first tense all muscles while in the comfortable position; then hold the tension for about five seconds (throughout the body), and then let go and relax all muscles entirely.

4.* After you let go and relax, take in a very deep breath and hold it for a few seconds. Then very slowly let it out. Repeat this once or twice, and keep your eyes closed.

5. You can relax even more and help lose any tension if you think to yourself the words "calm" and "relax." Think or picture these words to yourself as you slowly let out the breath.

* Step (4) (taking slow deep breaths) is the most important step. The other steps help you get ready for this.

TIMES FOR CREATING A GOOD MOOD

There are three times when your mood or negative thoughts can really get in the way of learning. One is when you are trying to decide whether or not to sit down to learn; two is when you sit down to learn and you have a lot of other thoughts and feelings in your head; and three is during your learning session. Following are three sets of exercises. Use them to learn how to set a good mood.

These exercises will help you learn to talk to yourself. This helps you take control of problems and find good solutions. In other words, when people, like you, have a bad learning mood, you may say things like, "I hate this crap" or, "Every time I even think about trying to learn, I get so tense." This is your "old self" talking. It puts you in a bad study mood and lets your moods control you. Your "new self" will control those moods and make a good mood to learn. You will say things like, "This BSEP course may be boring but my life isn't. It's up to me to get the most out of this course and prepare myself for moving on in my life."

In other words, your "new self" and your "old self" talk to each other. They try to win the learner over to their side. If the "new self" wins, the learner will be in control of his moods, and he will get a lot out of the BSEP course. If the "old self" wins, the learner will lose control of his moods and may not get a lot out of the course.

Your job for these exercises then is to read the statement of the "old self." Then write down what you would say to yourself as the "new self" who is in control of your mood. Use your own words as if you were talking to yourself. Then look at the "new self" statement that other people have written. If you think your answer could be better, then rewrite it. This exercise will give you skills in spotting a poor attitude or bad mood (old self). You will then know how to talk yourself into a good mood (new self).

Here is the way to do the exercise. Take a piece of paper and cover the "new self" talk. That's the part under the blank lines. Cover it without reading it.

Now read the "old self" talk. Then make up your own "new self" words and write it in the blank lines.

After you have done this, then look at the "new self" talk that we wrote. It is important that you write your own "new self" talk first. Then compare yours with what we wrote. If you can make your talk better, change it now. Then go on to the next "old self" statement.

Exercises For Problems Which Occur Before You Start To Learn

OLD-SELF:
"I HATE THIS CRAP!":

_____

_____

_____

_____

NEW SELF:
"Okay. This course may be boring but your life isn't. Its up to you to get the most you can out of this course and prepare yourself for moving on in your life."

OLD SELF:
"EVERY TIME I EVEN THINK ABOUT LEARNING, I GET SO TENSE!"

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NEW SELF:
"That's the time you need to work on your attitude. You can make a list of what you need to do. That will make you feel less up-tight because you can

check things off the list as you finish them. That will make you feel like you're getting someplace. You can relax as you think about learning. Expect some tension and deal with it."

OLD SELF:
"WHENEVER I NEED TO LEARN, I THINK ABOUT MY FRIENDS, TURN ON MY RADIO, OR PLAY AROUND WITH THE GUYS IN THE HALL."

NEW SELF:
"You could limit these types of things to 5 or 10 minutes. Then work on your attitude (by relaxation and good self-talk). You could get yourself excited about learning while you're getting your stuff together."

OLD SELF:
"I'M SO UPSET. MY BUDDY WAS DISCHARGED. MY DAD LOST HIS JOB. I JUST CAN'T WORK WITH ALL THESE PROBLEMS ON MY MIND."

NEW SELF:
"You really need to go off for awhile and relax. First, you should talk to your buddy and dad. Tell them how you feel and that you wish you could help. Give yourself a set amount of time for this. Then come back and begin learning. Reward yourself for doing small things. Calm yourself by doing the Slow Deep Breathing exercises."

OLD SELF:

"I'VE HAD A REALLY HARD DAY TODAY AND DESERVE A BREAK. THIS STUFF IS A WASTE OF TIME ANYWAY."

NEW SELF:

"You're just making excuses for not learning. In the long run, it won't do you any good to put it off. You need to get into a good mood. Relax and get to it."

OLD SELF:

"I NEVER HAD TO LEARN LIKE THIS BEFORE. WHAT'S WRONG WITH ME NOW?"

NEW SELF:

"Some Army jobs are a little tougher than what you had before. You wanted to challenge and improve yourself. Here you are in the Army. You want that job, so let's get on with it."

OLD SELF:

"I COULD LEARN IF I WEREN'T SO FRUSTRATED:"

NEW SELF:

"Maybe you should figure out why. Maybe it's because you don't get your work done. Feeling frustrated only makes things worse. You need to work on your attitude. Also, you need to break this task down into smaller parts. Reward yourself for each step forward! You may need to take a break to work off some of this tension. Maybe you should jog for a mile or two. You can think about your situation while you're jogging. Then set a plan to get back to work."

OLD SELF:

"IF I WEREN'T UNDER SUCH TIME PRESSURE, MY ATTITUDE TOWARD LEARNING WOULD BE BETTER!"

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_____

NEW SELF:

"Maybe your attitude gets you there in the first place. If you had a more positive attitude you might get your work done faster and better. Take control of your attitude. List tasks to be done. Tell yourself you are going to do the work."

The message that comes out of all of this is pretty simple. It is also the most important way to improve your life: change the way you think (talk to yourself) and you will change the way you feel. Talk to yourself in a more positive, productive way, and you will start to feel better. Once your experiences are more positive, the number of negative thoughts you have will decrease.

Now, you've learned how to get yourself to start learning. You've sat down with your manuals but your head is somewhere else. You can clear your head. Just relax and talk to yourself just like you did to get yourself to start to learn. The next set of exercises deal with how to spot and change thoughts that lead to a bad mood <u>after you sit down to learn</u>.

Exercises To Spot And Change Thoughts That Lead To A Bad Mood After You Sit Down To Learn.

Here are some thoughts that people have after they sit down to learn. Do this exercise the same as the last. First cover the "New Self" talk under the blank lines. Read the "Old Self" statement and then write down what you would say to yourself if you were that person and wanted to get into a good learning mood ("new self"). Use your own words. Talk to yourself. Then, look at the "new self" statements other persons have made. If you think your answer can be improved, rewrite it. This exercise will help you spot a poor attitude or bad mood ("old self") and then know how to talk yourself into a good mood ("new self").

OLD SELF:
"I AM SO UPTIGHT; I CAN'T SIT STILL! MY NAILS ARE CHEWED DOWN TO THE QUICK AND I'VE LICKED MY LIPS SO MUCH THAT THEY'RE CHAPPED!"

NEW SELF:
"Well, you usually get uptight when it's time to sit still and study. You could do some physical exercise for a few minutes, I guess. You will probably settle down if you just relax and get into the task."

OLD SELF:
"IT SURE IS NOISY IN HERE!"

NEW SELF:

"You need to stop listening to everyone else's talking and stop watching the door. If you just get into learning you won't hear all that any more. You need to re-set your mood."

OLD SELF:

"I KNOW THAT I SHOULD RELAX AND SET A GOOD MOOD BUT THAT WILL MAKE ME SLEEPY."

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NEW SELF:

"Where will you be if you don't set the mood? Besides, if you do get sleepy, you can get going again by Slow Deep Breathing. Or do some physical exercises."

Finally, few of us go through a learning session without losing our concentration once or twice. Sometimes the things you think of are things about what you are learning. Most of the time, though, the thoughts are about something else. Your job is to change this. Let's look at some of the things other people think about while they try to learn.

Exercise For Changing Thoughts While Learning

Here are some thoughts people have while they learn. Just as before, cover the "New Self" talk first. Read the "Old Self" statement. Then write down what you would say to yourself to get into a good mood ("new self"). Use your own words. Talk to yourself. Then, look at the "new self" talk we wrote. If you think you can improve it, rewrite it. This exercise will help spot a bad mood and then know how to talk yourself into a good mood ("new self").

OLD SELF:

"BOY, I BETTER NOT FLUNK THIS NEXT SQT TEST."

_____

NEW SELF:
"You're not going to flunk the test because you're using the new study methods which your instructor showed you. Keep on trying!"

OLD SELF:
"THIS MANUAL COULDN'T BE HARDER TO UNDERSTAND. THE STUFF WOULD BE INTERESTING IF I DIDN'T HAVE TO WORK SO HARD TO GET IT."

NEW SELF:
"At least the stuff's important! You better do something to it so it will make sense to you. You could pretend you're an editor--and write it in your own words--it might be fun! You know that would help you understand it better."

OLD SELF:
"I'M STARTING TO DAYDREAM. IT'S SO HARD TO THINK ABOUT THIS STUFF."

NEW SELF:
"Okay. You'd better straighten up now before you give up! What's bothering you? I think I'm tired because this stuff is so hard. You need to break this up into small parts. Then reward yourself for getting each part learned and staying calm and controlled."

OLD SELF:

"I CAN'T WAIT TILL FRIDAY! THE PARTY IS GOING TO BE REALLY BAD!"

NEW SELF:

"Friday's a long way off! You have a lot to do in the meantime. Besides, if you get behind between now and Friday you won't have as much fun at the party--so get with it!"

OLD SELF:

"THIS ROOM IS SO DEPRESSING! I COULD LEARN IF I WERE SOMEWHERE ELSE."

NEW SELF:

"You have to study here. You have to train yourself to learn anywhere. You can find something nice about it. Or simply ignore it. You can set a good mood."

OLD SELF:

"THIS IS SO HARD! I DON'T SEE HOW IT HAS ANYTHING TO DO WITH MY JOB!"

NEW SELF:

"Make a game out of this! You need to find out how it links up with what you learned before. Maybe you could talk to some other people or the instructor. Yes, it's hard but it will be easier the next time you go over it."

OLD SELF:

"I DON'T UNDERSTAND THIS. MY EYES ARE JUST PASSING OVER THE PAGES."

NEW SELF:

"Okay. What's the problem? Don't just say you don't understand. Think what you can do about it! Figure out what's wrong. Ask for help if you need it."

OLD SELF:

"I'VE GIVEN THIS MY BEST SHOT AND I STILL DON'T KNOW IT."

NEW SELF:

"Try the instructor or the Sarge. That's what they are there for. Go on!"

OLD SELF:

"I DON'T HAVE MUCH TIME LEFT, SO I BETTER HURRY! NOW, ALL I CAN THINK ABOUT IS HURRYING!"

NEW SELF:

"Don't worry about the time. You need to complete the 'goal' as best you can. You can always add on to it tomorrow. Doing a good job of this is more important than being 'thorough' and having nothing to show for it!"

OLD SELF:

"IF I DON'T MAKE A GOOD SHOWING I'LL REALLY BE IN HOT WATER! EVERY SENTENCE I READ LOOKS LIKE IT MIGHT BE A TEST QUESTION!"

NEW SELF:

"If you keep worrying, you won't do well! Even if you were to mess up, there's always another chance. You'll do well because you're learning how. Look at sentences in terms of test questions. It is good practice for the test. Just relax!"

SUMMARY

Now you are your own coach. Just remember that a good coach MOTIVATES you when you're acting tired, bored, lazy, and generally want to blow it off.

How?	By telling you to FIRE UP:	"Okay, let's get with it."
	By telling you to KEEP GOING:	"You'll feel better if you finish this section."
	By REWARDING:	(Celebrate small things!) "Good, you're on the right track now!"

A good coach also RELAXES you when you're acting tense, uptight, frightened, angry, frustrated or losing your state of "relaxed attention."

How?	By telling you to RELAX:	"Take it easy." "Just stay calm." "You'll do OK." "Conserve your energy now." "Do some Slow Deep Breathing."

A good coach DIRECTS you by giving you positive ideas or hints about how to improve your learning.

Examples: "You are not reading carefully now--you didn't get that. Go back and think!"

"You're getting off the track. Get back to it."

"Slow down--better read this more carefully."

"This is important."

"Do you understand that?"

"Are you getting the Big Picture? Do you understand how that relates to your learning?"

And a good coach LEAVES YOU ALONE when things are going well.

Maybe you have found that coaching yourself into a good study mood takes some work. Then use the worksheet at the end of this lesson to help. Write down what happens when you lose your good mood (concentration) and how you talk to yourself to get back on track.

TO SUM UP: YOU CAN <u>CREATE</u> A "GOOD" LEARNING MOOD. JUST:

(1) TALK YOURSELF OUT OF STATEMENTS THAT LEAD TO A BAD MOOD.
(2) RELAX.
(3) BE <u>IN CONTROL</u> OF YOUR SITUATION (WHICH MEANS DO (1) AND (2)!)

DO THIS <u>WHEN</u>: (1) YOU ARE TRYING TO DECIDE IF YOU SHOULD LEARN;
(2) WHEN YOU BEGIN TO LEARN;
(3) WHILE YOU LEARN.

What Made You Lose Your Concentration?	How did you feel?	What did you say to yourself?	Was it Productive? (leads you toward your goal of having a good study session	What could you have said/done?
1. Setting (Noise, Temperature) ____	a. Uptight? ____			
2. Stress/Feeling Poorly ____	b. Frustration? ____			
3. The Material (Difficult, Boring) ____	c. Sadness ____			
4. Judging My Work ____	d. Fear of Failure? ____			
5. Daydreams/The Future ____ (Test score, grade average, etc.)	e. Uncertainty? ____			
	f. Anger? ____			
6. Other ____	g. Other? ____			

LEARNING STRATEGIES: TEST WISENESS MODULE

ACKNOWLEDGEMENT

This lesson is taken from Study Skills Package: Development and Evaluation by J. L. Dobrovolny, B. L. McCombs, and W. A. Judd. Where appropriate the language has been changed to make the material applicable to the Army population for which it is intended. Some of the ideas, concepts and examples of test-wiseness presented in this lesson are from Test-Wiseness: Test-taking Skills for Adults, by Katheryn K. Woodley.

TEST WISENESS

The objectives of this lesson are:

1. You will complete tests on time.
2. You read and understand test directions and test questions.
3. You will know how and when to guess on test questions.
4. You will know what to do when you are not sure of the correct answer.
5. You will understand that test anxiety is a habit.
6. You will control any test anxiety you may have when taking a test.

Test taking is a skill just like reading or hitting a baseball or swimming. Sometimes two people get the same score on the same test even though one of them knew a lot more than the other one. This is because one had better test taking skills. When people are uptight or don't know how to take tests, their scores will <u>not</u> show how much they really know about a subject.

Poor test skills and high test anxiety can both be corrected. A person just needs to learn more about the right test skills. This lesson on Test Wiseness will teach you how to take tests. You will learn to use clues in the test to get a good score.

Before we get to the skills part, we want to clear up three rumors. First, some people think that test-taking skills are a way to "beat the test." Others think that test-taking is a natural skill. So they think it cannot be taught or learned. And, others think that these skills are no good because they think that tests just show what a person knows. All three of these thoughts are wrong! Read on to see why.

1. <u>Beating the Test</u>

This rumor comes from the idea that a test is like a game of cards where the deck is stacked. The test is to fool the student. And, therefore, a person

has to find out the "code" or "trick" to get a good score.

To show that this idea is not true, ask yourself two questions. First, "Why would anyone write a test just to see if you can out-guess the instructor?" Second, "If the test is to see how much you know, isn't it dumb to not learn and just try to out-guess the instructor?" So you must learn and know how to take tests. It is also not a way to just guess or "luck out"

2. Good Test Takers Are Born, Not Made

People can improve their test-taking skills. This has been proven by many studies. You will learn this skill like you learn other skills: You just need to train and practice. You can learn and improve. Many programs to improve test-taking skills have been very successful. Again, the test skills you will learn cannot replace the knowledge you have to have. They will help you get good test scores.

3. Test Scores Are Always Right

This rumor comes from the idea that test scores always give a true picture of how much you know. But we now know that test scores do not always show how much a person knows. For example, we know that test scores are not good if a person is really uptight while taking a test. In most cases, there is some increase in test scores if the person is a little uptight. But lots of anxiety makes test scores go down. Test scores get a lot worse when anxiety is very high. So, when anxiety goes down, test scores go up. This improvement comes from getting rid of too much anxiety so that people can really show what they know. We know that the more you know about how to take a test, the less test anxiety you will have.

Test Wiseness Is:

Now we have gotten rid of what test wiseness is not. Let's talk about what it is.

Then we will talk about how you get and use this skill. As we said before: test-wiseness is using clues in the test to get a good score.

You will learn to be test wise in two ways: (1) by learning some easy test-taking steps, and by using some good tips; (2) and by doing some exercises to practice using these steps and tips.

One more thing before we start. There are two main types of tests: objective tests and essay tests. We will only talk about objective tests. In fact, we will talk about one type of objective test--the multiple choice (or multiple guess) test.

OBJECTIVE TESTS

Multiple choice questions are the most common type of objective test question. You will remember that the tests you took when you came into the Army were multiple choice tests. And part of the SQT has multiple choice questions. Multiple choice questions are used to test a lot of skills and abilities. This means that once you learn these test skills, you can do well on almost any multiple choice test.

General Test-Taking Information

There are three basic steps to good test-taking. These are:

1. Time Management or the ability to time yourself so you finish on time.

2. Careful Reading or the ability to read and understand directions, questions, and options.

3. Appropriate Guessing or the ability to know how and when to guess.

1. Time Management

Most tests have time limits. You only have a set amount of time to finish the test. It is important for you to time yourself so you finish on time. One way to time yourself is to figure out how much time to spend on each question.

For example, let's say that there are 60 questions on a test. And you have to finish in one hour (60 minutes). With easy math you divide 60 minutes by 60 questions. This shows that you can spend about 1 minute on each question. Now, you don't have to clock the time you spend on each question. Just knowing that you have one minute per question can help you judge how fast to work. So, if you complete ten questions in ten minutes, you are working at about the right speed. Or, if you have only done ten questions in 30 minutes, you know you spent too much time on each question. If this same pace goes on you will not finish on time.

Some test questions are easier than others. The hard questions take more time than the easy ones. Most multiple choice questions are worth the same number of points. So if you spend too much time on hard questions it will slow you down. This brings your test score down. It is important to know that when you get "hung up" on hard items, it can cost you points. To keep this from happening, you can do three things: (1) read all questions carefully; (2) if you don't know the answer, make a good guess; and then (3) put a check mark next to questions that confuse you. Then when you finish the test you can spend more time on the checked questions. And you can go back and change answers if you need to.

2. Careful Reading

Some people don't read the directions for a test carefully. And then they lose a lot of points because of it. Read the directions and each test question carefully and you will do well on any test. Careful reading is a skill you can learn. Here is a guide to help you improve your skill in this area.

A. Test Directions

Test directions tell you the what, when, where and how of good answers. You have to understand these. If you do, the chances are pretty good you will not make silly mistakes. And your score will be much higher. And you can be a careful reader. Now let's look at some test directions.

Example: HOW TO TAKE A TEST
This is a multiple choice test. It covers tasks which are critical to your Military Occupation Specialty (MOS). For each task there will be a series of questions. Each question will have from two to five possible choices and one correct answer. Blacken the space on your answer sheet that matches your selection.

This gives you the answers to each of the four key question words. That is, the what is to select the best response; the when is after you read carefully the two to five possible choices; the how is to blacken the matching space (A, B, C, D or E); and the where is on the answer sheet. Since you must understand test directions, you should ask yourself these four questions before you start the exam. What? When? How? Where?

You need to learn to see and understand key test words in test directions. This helps you get the most test points. For example, words like not, except, all, only, and none can make a big difference. You have to see and understand them. Some examples of tests directions that use these words are:

Example: DO NOT MAKE ANY MARKS IN THIS BOOKLET

Example: To change an answer, clearly erase the selection you wish to change and mark the appropriate answer. Do not X out unwanted answers.

Example: Give only one good answer to each item.

So, it is a good idea to read all test directions carefully and completely before you start the test. If you don't understand the directions, ask the instructor or proctor for help. Clear up any questions you have before it is too late.

B. Test Questions

It is important to be careful when you read each test question. If you don't understand each one, it will be hard to pick the right answer.

One thing that confuses people is the way some questions are written. Some test questions, like the one below, are short and easy to understand.

Example: What is an effective method of concealment while crossing an obstacle?

a. Small arms fire
b. The artillery
c. Smoke

Correct answer: "c"

This is not a hard question to understand. All you have to do is figure out which of the three answers is right.

All questions are not that easy to understand. Some are long or have long words. These kind of test questions need to be read very carefully. For example, you need to read the next question carefully before answering.

Example: General situation for questions 1 through 3. While en route to a new defensive position, your squad comes under enemy sniper fire. After the attack, you find a member of the squad lying unconscious on the ground.

1. Upon finding the casualty, what should you do first?
   a. clear the airway
   b. give the casualty the contents of the salt packet dissolved in a canteen of cool water
   c. open the airway, and look, listen, and feel to determine if the casualty is breathing

Correct answer: "c"

Questions like this are hard because they are so long. Some people t o rush through these questions. They pick the first answer that seems right and c 't read the other options. They may think this saves time. But it may cost p ts because the right answer is overlooked. So, it is very important to read ea option carefully. Then select the one that best answers the question.

Now let's look at an example of a test question which is complex because of the use of key words.

Example: Situation. You are on guard at your defensive position. It is dark.

2. One hour later, you see a group of personnel moving in front of your position; they are close enough to hear you. What action should you take FIRST?
   a. let them pass to keep from giving away your position
   b. advance one man to be recognized
   c. immediately take them under fire
   d. order them to halt

A key word in this example is "FIRST". Overlooking key words can make you miss the question even though you know the correct answer. In fact, this happens very often. When you see one of these key words, be sure to stop and make a mental note of it. Then pick the best answer. Finally, remember that key words can be in both the question and in the answers. Be sure to check both the question and all answers. Look for the key words before picking the right answer.

Now let's look at another example of a complex test question.

Example: NOTE: Refer to the fold-out of the Harlem, GA, mapsheet for the next two units.

Determine the Grid Coordinates of a Point on a Military Map Using the Military Grid Reference System.

General Situation for question 5. Your squad leader is conducting a class in reading grid coordinates on a map. He has given you a map and a protractor.

5. What are the six-digit grid coordinates of the mock village located east of BM441 (LG7788)?

a. LG802882

b. LG805885

c. LG806887

This question is complex because you must use something else to answer it. No matter how smart you are, you cannot answer the question correctly without reading the map sheet. You have to turn to the mapsheet in the test booklet. Then you have to read the map, and you then have to return to this test question and pick the right answer.

When you have to use maps, charts or any other kind of new information, you must know exactly what to look for.

It is very important for you to (1) carefully read the question, (2) check to make certain that you are using the correct map, diagram or chart, (3) find the information in the map, diagram or chart that you need, (4) reread the question to make sure that the map, diagram or chart fits the test question, (5) select the correct answer. Remember that maps, diagrams and charts are there to help you pick the right answer. Use these cues wisely. Don't ignore them!

Questions can also be complex because of what they ask you to do. That is, a question may make you read a long paragraph. Then you have to answer multiple choice questions. The questions may be written in a simple way. But the time it takes to read and understand the paragraph may make it very hard.

Another example might be a question that makes you do some math. The question may be very simple. But the time it takes to do the math may make the question harder.

So you must read, and reread, questions very carefully. This is really the only way to make it easy to understand and to answer. For very complex questions, break them down into smaller, easier parts. Ask yourself (a)what information is given; (b) what question is being asked, and (c) what choices for right answers are given?

3. Appropriate Guessing

The third step of test wiseness is good guessing. Most of us were taught that guessing at answers was not an OK thing to do. But if you think about it, that idea doesn't always make sense. There is no chance of getting a question right when you don't answer it. Usually you can see that one of the four answers is obviously wrong. This makes your chance of getting a question right much better. You now have one chance in three. That's better than the one in four you had at first.

Not only that, most people find one or two questions that they just don't know. Some people end up with too many unanswered questions and too little time. In both cases, "good" guessing is worth the try.

Remember that guessing need not be a "shot in the dark." There are two kinds of guessing: good guessing and blind guessing. Good guessing is when you can see that one or more of the answers are wrong; blind guessing is when a person doesn't know anything about the question. Good guessing is most likely to pay off.

For example, let's say there are 4 options, and you can see that two of them are wrong. The choice is now between just two options. Now you have a 50-50 chance to get a right one (one out of two). Blind guessing gives a person only a 25 percent chance (one out of four). It's easy to see that 50 percent is better than 25 percent. But twenty-five percent is better than zero percent. And zero percent is the chance of getting the question correct if it is not answered. Remember, though, that knowing the material is the best way to get a good test score.

SUMMARY

Time Management, Careful Reading, and Appropriate Guessing are three steps of test-taking. Thus, as a good test taker you will:

- figure out a working pace that helps you finish the test on time.
- understand the test directions before you start the test, and then read each test question carefully.
- think of the right answer to a question before you read the options. This gives you a little edge in selecting the right answer.
- clear up any questions about the test by (1) asking the instructor or proctor for help and/or (2) putting a check mark next to confusing questions. Then return to them after the rest of the questions have been answered.
- know that good guessing may sometimes be the best way to answer a difficult or confusing question.

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STUDY SKILLS QUESTIONNAIRE

DIRECTIONS: A number of statements which people have used to describe their study habits and skills are given below. Please read each statement carefully and then blacken the space on your answer sheet which best describes your study habits and skills. There are no right or wrong answers. Do not spend too much time on any one statement, but select the answer which best describes your study habits and skills. Notice that you are asked to describe your study skills in four basic areas (reading, memorization, test-taking, concentration management).

1. Reading Comprehension Skills

   1. I get deeply involved with material I am studying (i.e., I really think about it rather than just trying to memorize it).

      a. almost always
      b. most of the time
      c. some of the time
      d. almost never

   2. If I am reading some course material and cannot understand it, I keep going anyway in order to finish the assignment.

      a. very frequently
      b. frequently
      c. sometimes
      d. almost never

   3. I would rate my ability to read and remember technical information as:

      a. well above average
      b. above average
      c. below average
      d. well below average

   4. I would rate my ability to take good test notes:

      a. well above average
      b. above average
      c. below average
      d. well below average

   5. In comparison to the amount of time spent reading your notes and the textbooks, how much time do you spend testing yourself on the material when studying for an exam?

      a. a large amount of time
      b. a moderate amount of time
      c. a small amount of time
      d. almost never

6. Do you try to figure something out when you can't understand it?

   a. almost always
   b. most of the time
   c. some of the time
   d. almost never

7. You finish reading a lesson and find that you don't remember what you read. How often does this happen to you?

   a. very frequently
   b. frequently
   c. sometimes
   d. almost never

8. I think it is easy to find the main idea of a paragraph or passage.

   a. almost always
   b. most of the time
   c. some of the time
   d. almost never

II. Memorization Skills

9. Do you try to find personal meaning in the technical material to help you remember it?

   a. almost always
   b. most of the time
   c. some of the time
   d. almost never

10. My memory for facts is:

   a. well above average
   b. above average
   c. average
   d. below average

11. You have read some material for a lesson, and you feel that you understood pretty much what was being said. A classmate then asks you a question on the material or you try to recall some of the material yourself and find that you can't remember much of what you have read. How often does this happen to you?

   a. very frequently
   b. frequently
   c. sometimes
   d. almost never

12. When it's necessary for you to memorize material, how much time do you spend memorizing it?

   a. more than 1/2 my study time
   b. 1/2 my study time
   c. 1/4 to 1/2 of my study time
   d. I don't memorize material

13. To memorize something, I repeat it to myself many times.

    a. very frequently
    b. frequently
    c. sometimes
    d. almost never

14. To memorize something, I write it down several times.

    a. very frequently
    b. frequently
    c. sometimes
    d. almost never

15. How would you rate your ability to memorize and remember information?

    a. well above average
    b. above average
    c. below average
    d. far below average

III. Test Taking Skills

16. I would rate my ability to do well on multiple choice tests as:

    a. well above average
    b. above average
    c. below average
    d. well below average

17. I usually read the test directions very carefully.

    a. very frequently
    b. frequently
    c. sometimes
    d. almost never

18. I would rate my ability to finish tests on time as:

    a. well below average
    b. below average
    c. above average
    d. well above average

19. You are taking a test and you come to a question for which you are sure you know the answer, but you just can't quite remember it. How often does this happen?

    a. very frequently
    b. frequently
    c. sometimes
    d. almost never

20. When taking an exam, I am usually feeling _____.

a. very nervous and uptight
b. somewhat nervous and uptight
c. relatively relaxed
d. very relaxed

21. You study very hard and know that you understand the material but when you sit down to take the test you forget everything you knew. How often does this happen to you?

a. very frequently
b. frequently
c. sometimes
d. almost never

IV. Concentration Management Skills

22. I would rate my ability to concentrate (compared to other students) as:

a. well above average
b. above average
c. below average
d. far below average

23. I would rate my ability to deal with distractions that occur while I'm studying as:

a. well above average
b. above average
c. below average
d. far below average

24. I would rate my ability to keep my feelings and emotions from interfering with my school work as:

a. well above average
b. above average
c. below average
d. far below average

25. I would rate my ability to deal with distractions that occur while I'm taking a test as:

a. well above average
b. above average
c. below average
d. far below average

26. Once I get started, I find it easy to continue studying for a relatively long time.

a. almost always
b. most of the time
c. some of the time
d. almost never

27. I enjoy studying. I am usually in a good mood when I am studying.

a. almost always
b. most of the time
c. some of the time
d. almost never

28. You are studying a lesson. After reading a number of paragraphs, you suddenly realize you have no idea what you just read because you have been thinking of other things. How often does this happen to you?

a. very frequently
b. frequently
c. sometimes
d. almost never

29. I get sleepy when I start to study.

a. very frequently
b. frequently
c. sometimes
d. almost never

30. If other students are studying near me, I have trouble blocking out noise in the room.

a. very frequently
b. frequently
c. sometimes
d. almost never