Name: _____

<u>**Translating Phrases into Algebra**</u> (Attach an extra sheet for work or include this in your homework assignment.)

Translate each of the following phrases into an algebraic expression.		expression:
1.	3 more than a number	1
2.	five less than twice a number	2
3.	the total plus a 15% tip	3
4.	the number of cents in d dimes	4
5.	the number of dollars from q quarters	5
6.	a 6% tax on a sale of d dollars	6
7.	the total (including tax) on a sale of d dollars with 6% tax	7
8.	the annual salary for an employee who earns D dollars per month	8
9.	the product of two consecutive integers	9
10.	the sum of three consecutive odd integers	10
11.	the sale price of a stereo priced at p dollars with a 35% discount	11
Translate each of the following phrases into an algebraic equation.		equation:
12.	The length of a rectangle is two more than twice the width.	12
13.	The width of a rectangle is 8 feet and the perimeter is 26 feet.	13
14.	The length of a rectangle is three feet less than the width, and the perimeter is 30 feet.	14
15.	The sum of three consecutive integers is 18.	15
Answer each of the following questions.		expression:
16.	If the sum of two numbers is 10, find an expression for the second number if the	16
	first number is x.	
17.	If \$10,000 is shared by two people, and the first person has x dollars, how much does the 2^{nd} person have?	17
18.	If a 15-ft board is cut into two pieces, and then length of the first piece is x feet,	19
	now long is the second piece?	10

In each example, translate the given information into an algebraic equation. (You do			
NOT need to solve the equation.)		equation:	
19.	Ron runs a ski train. One day he noticed that the train contained 13 more women than men (including himself). If there were a total of 165 people on the train, how many of them were men?	19	
20.	A piece of rope 130 cm long is cut into three pieces. The longest piece is 6 cm less than 3 times as long as the shortest piece, and the middle-sized piece is 26 cm longer than the shortest piece. Find the lengths of the three pieces.	20	
21.	Find the length of a rectangular garden if its perimeter is 96 feet and its width is 12 feet.	21	
22.	An advertisement for a DVD player gives a sale price of \$175.50. The regular price is \$225. Find the percent discount on this DVD player.	22	
23.	Suppose you can afford to spend \$50 on some new clothes. If sales tax in Elgin is 6.5%, what is the most expensive item you can purchase?	23	
24.	A restaurant bill came to \$91.80, including an 8% sales tax. What was the bill for food without tax?	24	
25.	AT&T has a long-distance plan which costs \$29.95 per month for unlimited long distance calls. A different plan costs \$3.95 and $7¢$ per minute. After how many minutes will the plans be the same cost?	25	
26.	Metra has several options for purchasing tickets. One option is that tickets can be purchased individually – a ride from Elgin to Chicago's Union Station costs \$4.90 each way. Another option is a monthly pass, which costs \$132.30. How many daily rides must a person make for the cost to be the same as a monthly pass?	26	
27.	A set of walkie-talkies has a range of about 2 miles. Suppose Donna and Alice begin walking along a nature trail heading in opposite directions carrying their walkie-talkies. If Donna walks at a rate of 3.5 mph and Alice walks at a rate of 4.5 mph, how long will it take for them to be out of the range of the walkie-talkies?	27	
28.	Hal works two part-time jobs. One job pays \$7.00 an hour and the other pays \$7.75 an hour. Las week Hal earned a total of \$190.25 and worked a total of 26 hours. How many hours did Hal work at each job?	28	
29.	Oberweis Dairy has 400 quarts of whole milk containing 5% butterfat. How many quarts of low-fat milk containing 1.5% butterfat should be added to produce milk containing 2% butterfat?	29	
30.	Community Coffee Company wants a new flavor of Cajun coffee. How many pounds of coffee worth \$7 a pound should be added to 14 pounds of coffee worth \$4 a pound to get a mixture worth \$5 a pound?	30	