NAME _____

1. Fill in the properties that justify each step:

$5 + 4(x - 6) = -15$	Given
$5 + 4x - 24 = -15$	
$5 - 24 + 4x = -15$	
$-19 + 4x = -15$	
$4x = 4$	
$x = 1$	

2. Solve using the order of operations. If a = -1 and b = -3, then:

$$a\sqrt{25} - b^2 - a$$

3. Tell whether each of the following has one, none, or infinite solutions:

$7x - 3 = 7x + 5$	$7x - 3 = -3 + 7x$

$$7x - 3 = 5x + 5$$

4. The Valentine's day dance tickets are $10 per person. The dance committee has collected $680 including the $50 they were allotted by the school. If x is the number of tickets, how many tickets has the dance committee sold? (Hint: Write an equation and solve.)

5. Solve the equation IN TWO DIFFERNENT WAYS (Hint: Use the distributive property on one, and divide first on the other):

$2(x + 10) = 50$	$2(x + 10) = 50$

For this problem, which way do you feel was the best way to solve? Why?

6.
Translate the following into either algebraic expressions or verbal expressions:

Twice the sum of five and double a number.
$$\frac{1}{3}(4 - 6x)$$

7. What is the value of the following:

$$2\sqrt{24} \cdot 3\sqrt{2}$$

8. Simplify the radical.

$$\sqrt{18xy^3}$$

9. Solve for variable y:

$$5y + 15x = 100z$$

10. Solve for variable p

$$\frac{1}{2}h(p - r) = k$$