

Name \_\_\_\_\_

## ABSOLUTE VALUE EQUATIONS #4

**Directions:** *Absolute Value Equations* typically have two solutions. For example, with the equation  $|x| = 9$ ,  $x$  could equal 9 or -9, because both numbers are 9 units away from zero on a number line. For the *absolute value equations* below, you will have to solve two different equations to find both solutions.

Examples:  $|x + 7| = 10$

$$\begin{array}{l} x + 7 = 10 \quad \text{or} \quad x + 7 = -10 \\ \mathbf{x = 3} \quad \quad \text{or} \quad \mathbf{x = -17} \end{array}$$

$|2x + 4| = 10$

$$\begin{array}{l} 2x + 4 = 10 \quad \text{or} \quad 2x + 4 = -10 \\ \mathbf{x = 3} \quad \quad \text{or} \quad \mathbf{x = -7} \end{array}$$

1)  $|2x + 12| = 14$

2)  $|4x - 8| = 40$

3)  $|3x + 3| = 33$

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_

4)  $|10 + 5x| = 15$

5)  $|2x - 20| = 42$

6)  $|x + 3| = 71$

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_

7)  $|6x + 12| = 24$

8)  $|4x - 2| = 30$

9)  $|3 + 2x| = 67$

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_

**x =** \_\_\_\_\_