

Worksheet #3 Part Two

Solve each Absolute Value Equation and Inequality. Show all work.

1. $|x + 6| = 12$

$$x + 6 = 12 \quad x + 6 = -12$$

$$x = 6 \quad \text{or} \quad x = -18$$



2. $|8 - 2n| = 2$

$$8 - 2n = 2 \quad 8 - 2n = -2$$

$$-2n = -6 \quad -2n = -10$$

$$n = 3 \quad \text{or} \quad n = 5$$



3. $|\frac{1}{4}x - 6| = 10$

$$\frac{1}{4}x - 6 = 10 \quad \frac{1}{4}x - 6 = -10$$

$$\frac{1}{4}x = 16 \quad \frac{1}{4}x = -4$$

$$x = 64 \quad \text{or} \quad x = -16$$



4. $|3 + 4x| \leq 15$

$$3 + 4x \leq 15$$

$$4x \leq 12$$

$$x \leq 3$$

$$3 + 4x \geq -15$$

$$4x \geq -18$$

$$x \geq \frac{-18}{4}$$

and

$$x \geq -\frac{9}{2}$$



5. $|4x - 12| > 16$

$$4x - 12 > 16$$

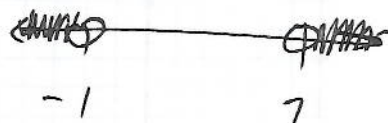
$$4x > 28$$

$$x > 7$$

$$4x - 12 < -16$$

$$4x < -4$$

$$x < -1$$



6. $|11 + 4x| < -2$

$$11 + 4x < -2$$

← ?
This can't be possible.

No solution