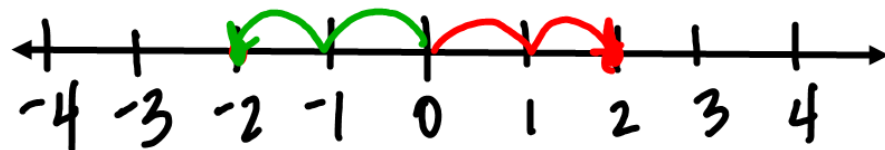


7.6 Absolute Value

$$|-2| = 2 \quad |2| = 2$$



$$|x| = 2$$

$$x = 2 \quad x = -2$$

$$|-2| = 2 \quad |2| = 2$$

Solve

$$|x| = 5$$

$$x = -5 \quad \text{or} \quad x = 5$$

$$|-5| = 5 \quad |5| = 5$$

$$|x| = -3$$

No Solution

$$|3| = 3 \quad |-3| = 3$$

$$|x-2| = 5$$

$$|x| = 5$$

$$x = 5$$

$$x = -5$$

$$x = 7$$

$$x = -3$$

$$|7-2| = 5$$

$$|-3-2| = 5$$

$$|5| = 5$$

$$5 = 5$$

$$|-5| = 5$$

$$5 = 5$$

$$|x-2| = 5$$

Set up 2 equations

1) Copy problem without $| |$

2) Copy problem without
Switch 5 to -5

$$x - 2 = 5 \quad \text{or}$$

$$x - 2 = -5$$

3) Solve each equation

$$x = 7 \quad \text{or}$$

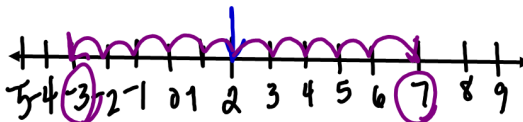
$$x = -3$$

$$|x-2| = 5$$

$$|85-92|$$

$$|-7|$$

$$7$$



$$|x-2| = 5$$

The distance away from 2 is 5

$$|x + 4| = 3$$

1) Copy equation 2) Copy equation, change to -3

$$x + 4 = 3 \quad \text{or} \quad x + 4 = -3$$

Solve

$$x = -1 \quad \text{or} \quad x = -7$$

Check $|x + 4| = 3$

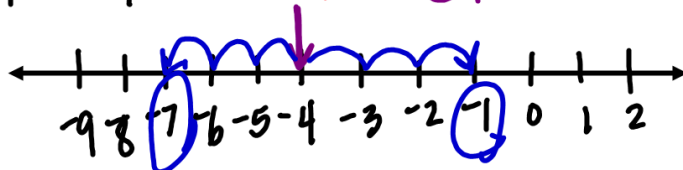
Substitute

$$|-1 + 4| = 3 \quad |-7 + 4| = 3$$

$$|3| = 3 \quad |-3| = 3$$

$$3 = 3 \quad 3 = 3$$

$$|x + 4| = 3 \quad |x - (-4)| = 3$$



The distance away from -4 is 3

$$|2x + 4| = 6$$

1) Copy equation

$$2x + 4 = 6 \quad \text{or}$$

2) Copy equation,
switch 6 to -6

$$2x + 4 = -6$$

3)
Solve

$$\frac{2x}{2} = \frac{2}{2}$$

$$x = 1 \quad \text{or}$$

$$\frac{2x}{2} = \frac{-10}{2}$$

$$x = -5$$

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Corrections