

**6 - 5**

**Solving Open Sentences  
Involving Absolute Values**

$|$  means absolute value

Ex:  $|2| = 2$

$$|-2| = 2$$

Ex: Solve  $|a - 4| = 3$ .

$$a - \cancel{4} = 3$$

$\cancel{+4} \quad +4$

$$a = 7$$

$$a - \cancel{4} = -3$$

$\cancel{+4} \quad +4$

$$a = 1$$

think about  $|x| < 5$

$$x < 5 \quad x > -5$$



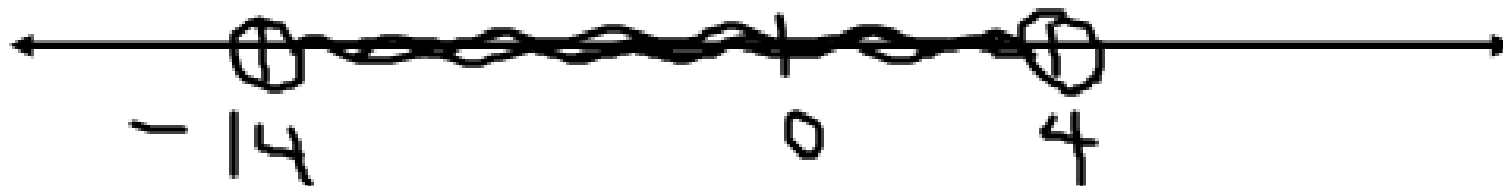
**Ex: Solve  $|x + 5| < 9$ . Then graph.**

$$\begin{array}{r} x + 5 < 9 \\ \hline x < 4 \end{array}$$

$$x < 4$$

$$\begin{array}{r} x + 5 > -9 \\ \hline x > -14 \end{array}$$

$$x > -14$$



Ex: Solve  $|2x + 8| \geq 6$ . Then graph.

$$\begin{array}{r} 2x + 8 \geq 6 \\ \hline \phantom{2x} - 8 \end{array}$$

$$\begin{array}{r} 2x \geq -2 \\ \hline \phantom{2x} 2 \end{array}$$

$$x \geq -1$$

$$\begin{array}{r} 2x + 8 \leq -6 \\ \hline \phantom{2x} - 8 \end{array}$$

$$\begin{array}{r} 2x \leq -14 \\ \hline \phantom{2x} 2 \end{array}$$

$$x \leq -7$$





Homework:

6 - 5 WS (#1 - 4, 8 - 13)