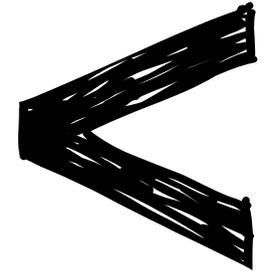
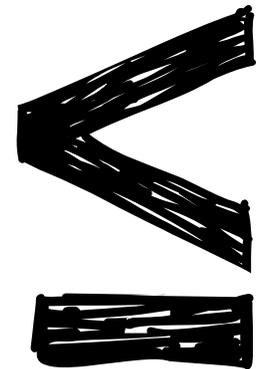
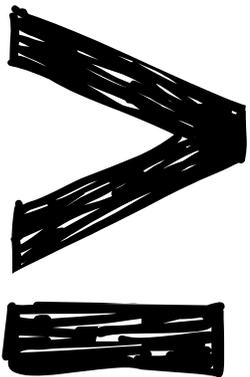


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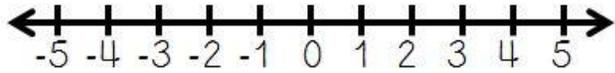


Absolute  
Value  
Inequalities  
involving  
Greater Than

Absolute  
Value  
Inequalities  
involving  
Less Than

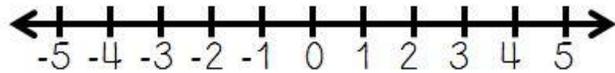


$$|x| < 2$$

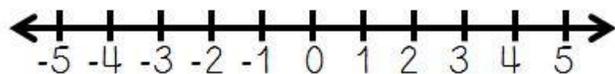


Solve each inequality & graph the solutions.

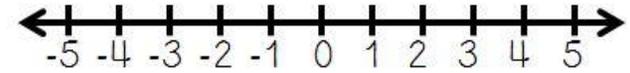
Example 1:  $|x| + 8 < 12$



Example 2:  $8|x + 4| \leq 8$

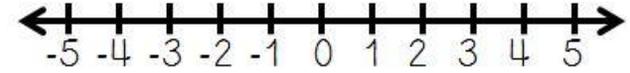


$$|x| > 2$$

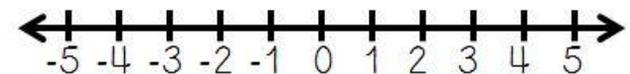


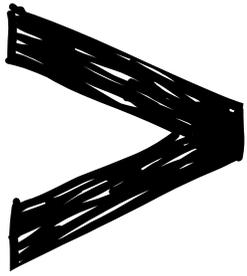
Solve each inequality & graph the solutions.

Example 3:  $|x| - 24 > -21$

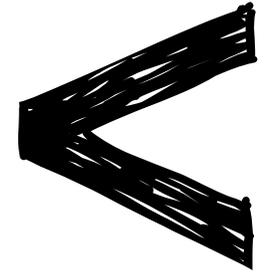


Example 4:  $|x - 3| + 5 \geq 6$



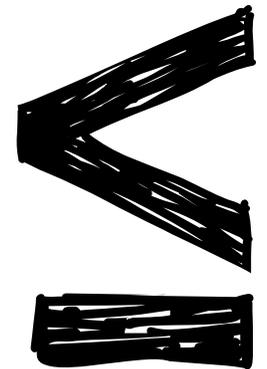
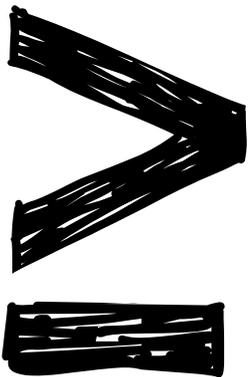


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Absolute  
Value  
Inequalities  
involving  
Greater Than

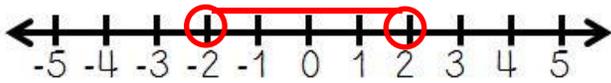
Absolute  
Value  
Inequalities  
involving  
Less Than



$$|x| < 2$$

$$x < 2 \text{ and } x > -2$$

$$-2 < x < 2$$



All inequalities involving  $<$  or  $\leq$  will be "and".

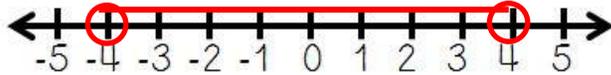
Solve each inequality & graph the solutions.

Example 1:  $|x| + 8 < 12$

$$\begin{array}{cc} -8 & -8 \\ |x| < 4 \end{array}$$

$$|x| < 4$$

$$x < 4 \text{ and } x > -4$$



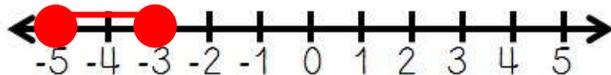
Example 2:  $\frac{8|x+4|}{8} \leq \frac{8}{8}$

$$|x+4| \leq 1$$

$$x+4 \leq 1 \text{ and } x+4 \geq -1$$

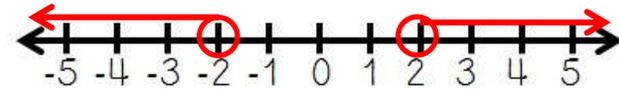
$$\begin{array}{cc} -4 & -4 \\ x \leq -3 \end{array}$$

$$\begin{array}{cc} -4 & -4 \\ x \geq -5 \end{array}$$



$$|x| > 2$$

$$x > 2 \text{ or } x < -2$$



All inequalities involving  $>$  or  $\geq$  will be "or".

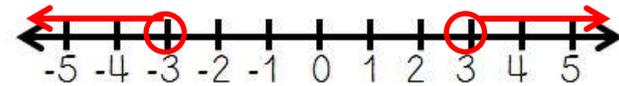
Solve each inequality & graph the solutions.

Example 3:  $|x| - 24 > -21$

$$\begin{array}{cc} +24 & +24 \\ |x| > 3 \end{array}$$

$$|x| > 3$$

$$x > 3 \text{ or } x < -3$$



Example 4:  $|x-2| + 5 \geq 7$

$$\begin{array}{cc} -5 & -5 \\ |x-2| \geq 2 \end{array}$$

$$|x-2| \geq 2$$

$$x-2 \geq 2 \text{ or } x-2 \leq -2$$

$$\begin{array}{cc} +2 & +2 \\ x \geq 4 \end{array}$$

$$\begin{array}{cc} +2 & +2 \\ x \leq 0 \end{array}$$



