

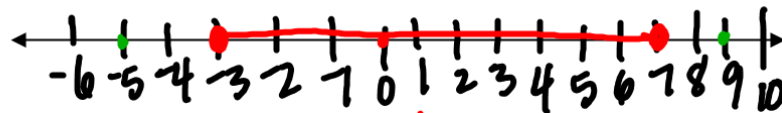
7.6 Absolute Value
Inequalities

less than $<$ Greater than $>$
 \leq or equal to \geq or equal to.

$$|x - 2| \leq 5$$

$$\overset{+2}{-5} \leq x - 2 \leq \overset{+2}{5}$$

$$-3 \leq x \leq 7$$



$$\begin{aligned} | -5 - 2 | &\leq 5 \\ | -7 | &\leq 5 \\ 7 &\leq 5 \\ \text{NO} \end{aligned}$$

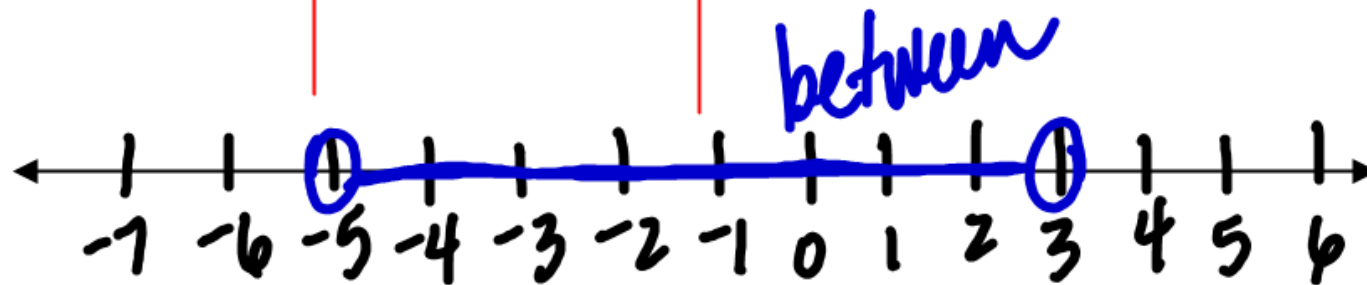
$$\begin{aligned} | 0 - 2 | & \\ 2 &\leq 5 \\ \text{True} \end{aligned}$$

$$\begin{aligned} | 9 - 2 | &\leq 5 \\ | 7 | &\leq 5 \\ 7 &\leq 5 \\ \text{No} \end{aligned}$$

$$|x + 1| < 4$$

$$-4 < x + 1 < 4$$

$$-5 < x < 3$$



$$-5 < x < 3$$

Greater Than $>$

Greater Than or equal to \geq

$$|x - 2| \geq 7$$

Switch inequality sign, number is negative

Drop off || sign

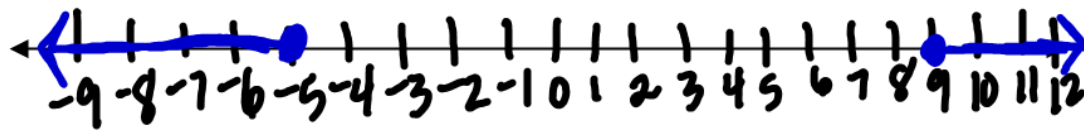
$$x - 2 \leq -7 \quad \text{or} \quad x - 2 \geq 7$$

Solve

$$x \leq -5$$

or

$$x \geq 9$$



$$|x+1| > 3$$

Greater Than

Switch inequality, change sign of number

$$x+1 < -3$$

or

Drop off

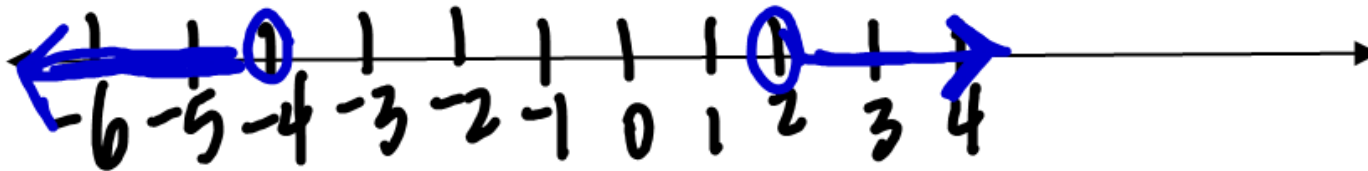
$$x+1 > 3$$

Solve

$$x < -4$$

or

$$x > 2$$

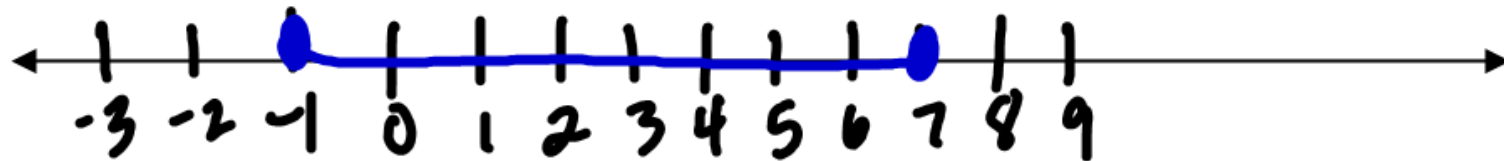


$$|x - 3| \leq 4$$

less than
or equal to

$$\overset{+3}{-4} \leq x \overset{+3}{-3} \leq \overset{+3}{4}$$

$$-1 \leq x \leq 7$$



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