

Warm-up

$$\textcircled{1} \quad |x-3| = 12$$

$$\textcircled{3} \quad |2x-3| = \textcircled{19}$$

$$\begin{array}{l} x-3 = 12 \text{ or } x-3 = -12 \\ +3 \qquad \qquad +3 \end{array}$$

$$x = 15 \quad \text{or} \quad x = -9$$

$$2x-3 = 19 \text{ or } 2x-3 = -19$$

1.7b Absolute Value & Inequalities

Less Than

$$|x| < 4$$

that work

* -3 2 X

graph (inbetween ... AND)



Breaking it up:

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

Greater OR

$$|x| \geq 3$$

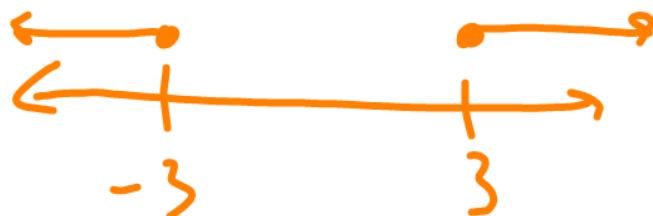
$$3 \geq 3$$

that work

$$3, 4, 6, 12 \rightarrow x \geq 3$$

$$-3, -4, -27, -600, 2 \rightarrow x \leq -3$$

graph (outside ... OR)



Breaking up:

$$x \geq 3 \text{ or } x \leq -3$$

Solve & graph

$$|4x+5| > 13$$

Break it up! Greater

$$4x+5 > 13 \quad \text{or} \quad 4x+5 < -13$$