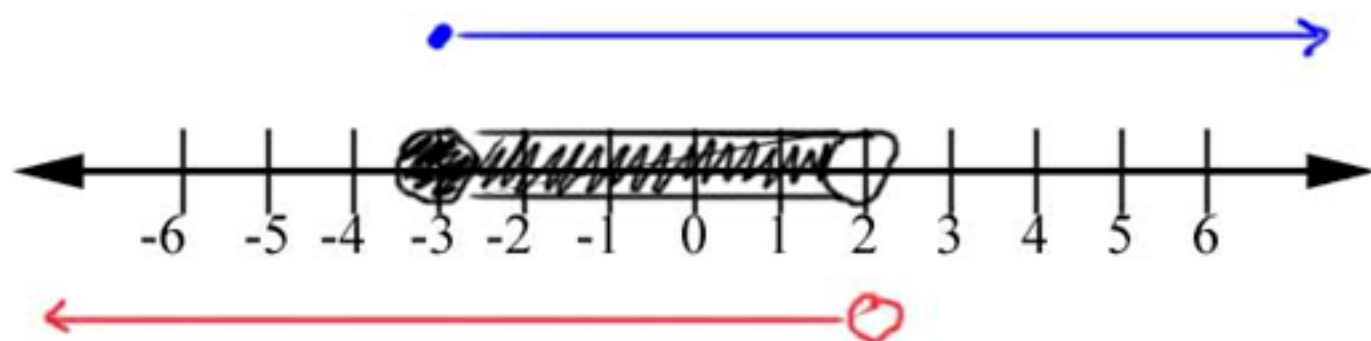Two sentences joined by the word *and* is called a **conjunction.**
A conjunction is true when *both* sentences are true.

Two sentences joined by the word *or* is called a **disjunction.**
A conjunction is true when *at least one of the* sentences is true.

Ex 1) Graph the solution of the conjunction:

$$x \geq -3 \quad \text{and} \quad x < 2$$

Ex 2) Solve and graph:

$$-3 < 2x + 5 < 7$$

$$-3 < 2x + 5 \quad \text{AND} \quad 2x + 5 < 7$$
$$ -5 \phantom{< 2x} -5 -5 \quad -5$$

$$\frac{-8}{2} < \frac{2x}{2} \qquad\qquad \frac{2x}{2} < \frac{2}{2}$$

$$-4 < x \qquad\qquad\qquad x < 1$$

$$x > -4 \qquad \text{AND} \qquad x < 1$$

$$\boxed{-4 < x < 1}$$

$$\xrightarrow[\quad -6 \quad -5 \quad -4 \quad -3 \quad -2 \quad -1 \quad 0 \quad 1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad]{}$$
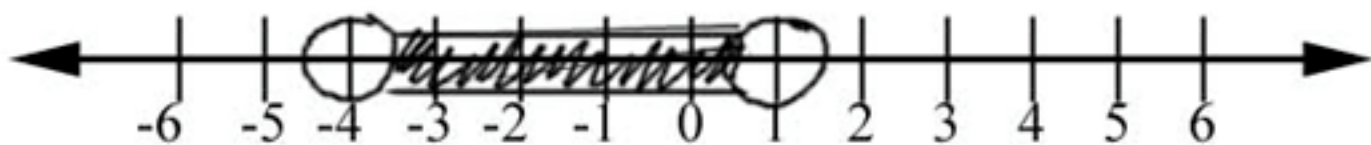
Ex 3) Solve and graph:

$-2x - 5 \geq -2$ OR $x - 3 > 2$

$ +5 +5 +3 +3$

$\dfrac{-2x}{-2} \geq \dfrac{3}{-2}$ OR $x > 5$

$x \leq -\dfrac{3}{2}$

$\boxed{x \leq \dfrac{-3}{2} \text{ or } x > 5}$

$-\dfrac{3}{2}$