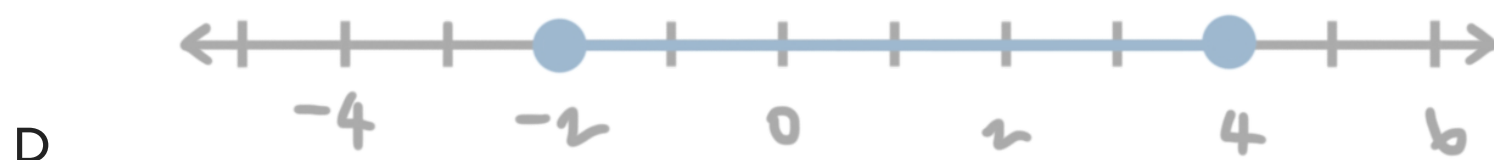


**Topic:** Graphing disjunctions on a number line**Question:** Graph the disjunction.

$$x < -2 \text{ or } x > 4$$

**Answer choices:**

**Solution: A**

First, graph the two inequalities separately. The sketch of  $x < -2$  is



and the sketch of  $x > 4$  is

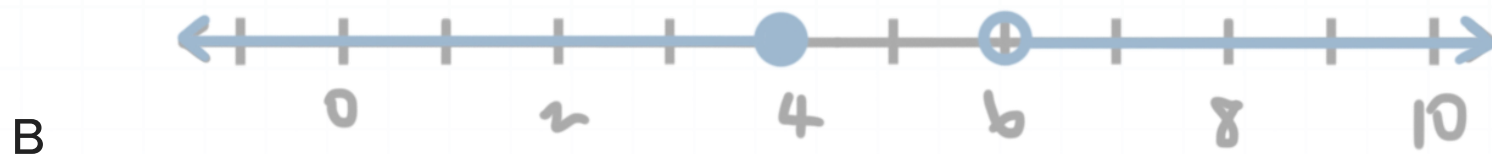
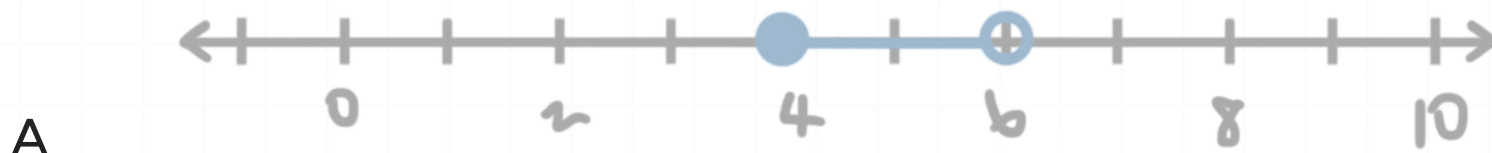


Sketching these two pieces together on the same number line, we can see the sketch of the complete disjunction.



**Topic:** Graphing disjunctions on a number line**Question:** Graph the disjunction.

$$2x - 5 \geq 7 \text{ or } 3(x - 2) < 6$$

**Answer choices:**

**Solution: C**

Solve the first inequality,

$$2x - 5 \geq 7$$

$$2x \geq 12$$

$$x \geq 6$$

then sketch it on a number line.



Solve the second inequality,

$$3(x - 2) < 6$$

$$x - 2 < 2$$

$$x < 4$$

then sketch it on a number line.



Sketching these two pieces together on the same number line, we can see the sketch of the complete disjunction.



**Topic:** Graphing disjunctions on a number line**Question:** Graph the disjunction.

$$2(x - 2) + 3 > 1 \text{ or } 2(4 - x) \leq x - 1$$

**Answer choices:**

**Solution: C**

Solve the first inequality,

$$2(x - 2) + 3 > 1$$

$$2(x - 2) > -2$$

$$x - 2 > -1$$

$$x > 1$$

then sketch it on a number line.



Solve the second inequality,

$$2(4 - x) \leq x - 1$$

$$8 - 2x \leq x - 1$$

$$8 - 3x \leq -1$$

$$-3x \leq -9$$

$$x \geq 3$$

then sketch it on a number line.



The solution of the disjunction is the set of values where both inequalities overlap. The set  $x > 1$  includes the entire set  $x \geq 3$ , so a sketch of the complete disjunction is the sketch of  $x > 1$ .

