Solving Compound Inequalities Involving "Or"

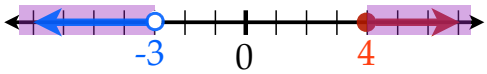
Name _____

Date _____ Period _____

Compound Inequality

a pair of inequalities joined by an *and* or *or*.

$x \geq 4$ *or* $x < -3$



Set Notation: $\{x \mid x < -3 \text{ or } x \geq 4\}$

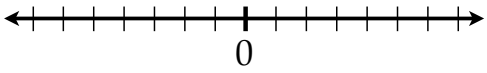
Interval Notation: $(-\infty,-3) \cup [4,\infty)$

To solve an inequality with *or*, find the values that satisfies *at least one* inequality.

The *union* is the solution to a compound inequality with *or*.

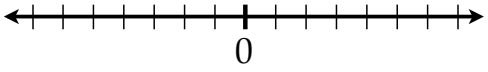
Solve and graph the following Compound Inequalities.

$x + 10 \leq 2x + 12$ *or* $8 + 2x \leq -4$



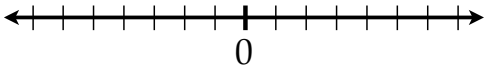
Solve and graph the following Compound Inequalities.

$2x + 8 < 6x - 8$ *or* $8 + 2x < 2$

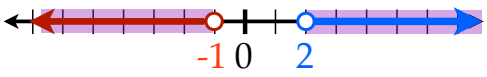


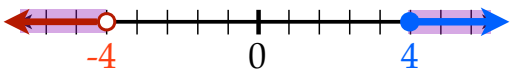
Solve and graph the following Compound Inequalities.

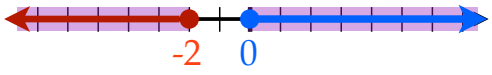
$3x - 5 \geq 5x - 15$ *or* $7 - 4x < 15$

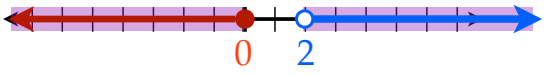


Determine the Compound Inequality for each graph.





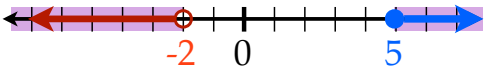




Compound Inequality

a pair of inequalities joined by an *and* or *or*.

$x < -2 \quad or \quad x \geq 5$



Set Notation: $\{x \mid x < -2 \text{ or } x \geq 5\}$

Interval Notation: $(-\infty,-2) \cup [5,\infty)$

To solve an inequality with *or*, find the values that satisfies *at least one* inequality.

The *union* is the solution to a compound inequality with *or*.