

Addition Property of Inequalities

If $a > b$, then $a + c > b + c$... or if $a < b$, then $a + c < b + c$

We can **add** the same value to both sides of an inequality and the inequality is still a true statement.

Subtraction Property of Inequalities

If $a > b$, then $a - c > b - c$...or if $a < b$, then $a - c < b - c$

We can **subtract** the same value from both sides of an inequality and the inequality is still a true statement.

Inverse Operations

Pairs of operations that “undo” each other.

Addition and **Subtraction** are **Inverse Operations**

Addition and **Subtraction** “undo” each other.

Any operation done to the left side...

...must be done to the left side



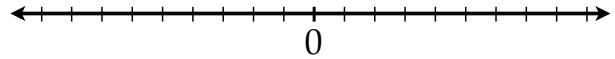
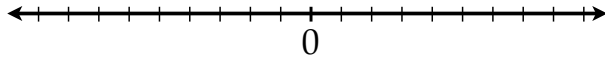
...must be done to the right side

Any operation done to the right side...

Solve and graph the following inequalities

$$x - 2 < 5$$

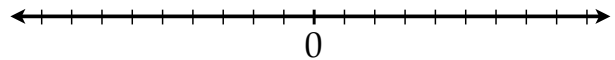
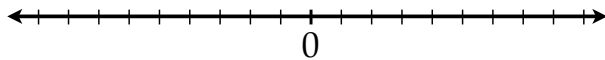
$$x + 3 \geq 1$$



Solve and graph the following inequalities

$$x - 4 > -8$$

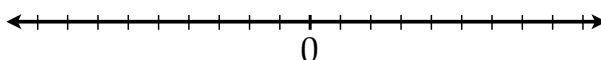
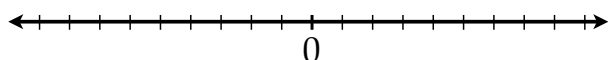
$$x + 9 \leq 8$$



Solve and graph the following inequalities

$$-1 > x - 6$$

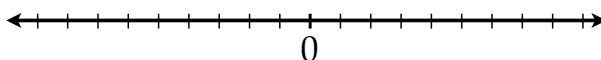
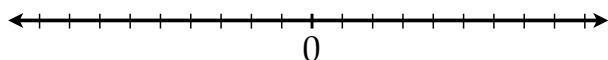
$$16 \leq x + 8$$



Solve and graph the following inequalities

$$-7 \geq x - 1$$

$$10 < x + 5$$



Addition Property of Inequalities

If $a > b$, then $a + c > b + c$

If $a < b$, then $a + c < b + c$

Subtraction Property of Inequalities

If $a > b$, then $a - c > b - c$

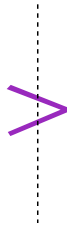
If $a < b$, then $a - c < b - c$

Addition and Subtraction are Inverse Operations

Addition and Subtraction “undo” each other.

Any operation done to the left side...

...must be done to the left side



...must be done to the right side

Any operation done to the right side...