Subtraction Property of Inequality Chapter 4 Chapter 4

Vocabulary Flash Cards

When you divide each side of an inequality by the same positive number, the inequality remains true.

When you divide each side of an inequality by the same negative number, the direction of the inequality symbol must be reversed for the inequality to remain true.

$$4x > -12$$

$$-5x > 30$$

$$\frac{4x}{4} > \frac{-1}{4}$$

$$\frac{4x}{4} > \frac{-12}{4} \qquad \frac{-5x}{-5} < \frac{30}{-5}$$

$$x > -3$$

$$x > -3 \qquad \qquad x < -6$$

When you add the same number to each side of an inequality, the inequality remains true.

$$x-3 > -10$$

$$\begin{array}{ccc}
+3 & +3 \\
x & > & -7
\end{array}$$

$$x > -7$$

A mathematical sentence that compares expressions; It contains the symbols <, >, \le , or \ge .

$$x - 4 < 14, x + 5 \ge -12$$

A graph that shows all the solutions of an inequality on a number line

$$x > -2$$



A value that makes an inequality true

A solution of the inequality x + 3 > -9 is x = 2.

When you multiply each side of an inequality by the same positive number, the inequality remains true.

When you multiply each side of an inequality by the same negative number, the direction of the inequality symbol must be reversed for the inequality to remain true.

$$\frac{x}{2} < -9$$

$$\frac{x}{2} < -9 \qquad \qquad \frac{x}{-6} < 3$$

$$2 \bullet \frac{x}{2} < 2 \bullet (-9) \qquad -6 \bullet \frac{x}{-6} > -6 \bullet 3$$

$$x < -18$$

$$-6 \bullet \frac{x}{-6} > -6 \bullet 3$$

x > -18

When you subtract the same number from each side of an inequality, the inequality remains true.

$$x + 7 > -20$$

$$\frac{-7}{x} = \frac{-7}{27}$$

The set of all solutions of an inequality