

Algebra 1

Chapter 3

Section 3-3

May 13-10:02 PM

Comparing Values

Consider the inequality $4 > 1$. Copy and complete each statement at the right by replacing each \square with $<$ or $>$. What happens to the inequality symbol when you multiply each side by a positive number? What happens to the inequality symbol when you multiply each side by a negative number? Justify your reasoning.

$4 > 1$

$4 \cdot 3 > 1 \cdot 3$

$4 \cdot 2 > 1 \cdot 2$

$4 \cdot 1 > 1 \cdot 1$

$4 \cdot -1 < 1 \cdot -1$

$4 \cdot -2 < 1 \cdot -2$

$4 \cdot -3 < 1 \cdot -3$

$-4 < -1$

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Solving Inequalities

Use division

$$\frac{-3d < 15}{-3} \quad \frac{-3}{-3}$$

$$d > -5$$

Sep 29-3:15 PM

Solving Inequalities

Use division

$$\frac{11x > 19}{11} \quad \frac{11}{11}$$

$$x > \frac{19}{11}$$

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Solving Inequalities

Use multiplication

$$\cancel{2} \cdot \frac{x}{2} \leq 33 \cdot \cancel{2}$$

$$x \leq 66$$

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Solving Inequalities

Use multiplication

$$\cancel{4} \cdot \frac{x}{4} \geq -10 \cdot \cancel{4}$$

$$x \geq -40$$

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Review: Solving Equations

Use division

$$\frac{-x}{-1} < \frac{1}{-1}$$

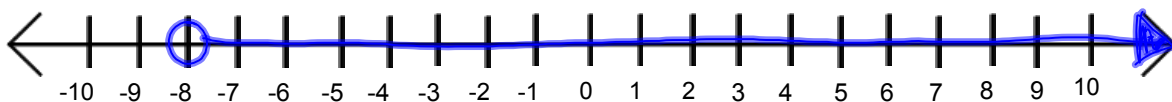
$$x > -1$$

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Solve the inequality and graph the solution.

$$\frac{7x}{7} > \frac{-56}{7}$$

$$x > -8$$



Oct 8-8:48 AM

Solve the inequality and graph the solution.

$$\underline{(-3)} \cdot 1 \geq x \div \underline{(-3)} \cdot \underline{(-3)}$$

$$-3 \leq x$$

$$x \geq -3$$



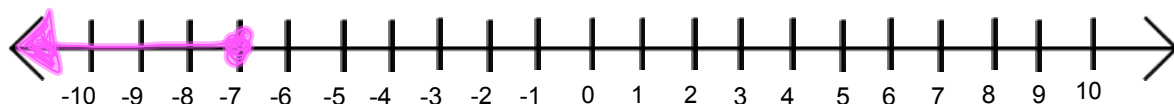
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Solve the inequality and graph the solution.

$$4x \leq -28$$

$$\frac{4x}{4} \leq \frac{-28}{4}$$

$$x \leq -7$$



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Writing and Solving an Inequality

You have \$14 in your piggy bank. Your brother has \$7.30 in his. The two of you want to buy some collectable baseball cards which cost \$3 per pack. Write an inequality that states how many packs you can buy.

$$3x \leq 14 + 7.30$$

$$\frac{3x}{3} \leq \frac{21.30}{3}$$

$$x \leq 7.1$$

$$x \leq 7 \rightarrow \text{less than round down}$$

Oct 6-8:47 PM