Math 7 - Unit 2c

Day 3 - Solving Inequalities by Multiplying or Dividing

Lesson Objectives:

- I can solve one-step inequalities by multiplying.
- I can solve one-step inequalities by dividing.
- I know how to show work when solving inequalities.

Multiplication Property of Inequality: You can multiply the same number to both sides of an inequality, and the statement will remain true.

For all numbers a, b, and c, where $c > 0$,
if $a < b$ or $a > b$, then $ac < bc$ or $ac > bc$.

Multiplication Prop (≠)

Division Property of Inequality: You can divide the same number from both sides of an inequality, and the statement will remain true.

For all numbers a, b, anc c, where $c > 0$
If $a < b$ or $a > b$ and $c \neq 0$, then $a \div c < b \div c$ or $a \div c > b \div c$.

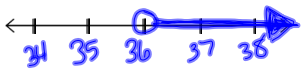
Division Prop (≠)

These properties are also true from $a \leq b$ and $a \geq b$.

Solve each inequality. Don't forget to show work, give properties as reasons, and graph your solution on a number line.

1. $\frac{9x}{9} \leq \frac{54}{9}$ Division Prop (≠) $x \leq 6$

2. $\frac{d}{9} \cdot 9 > 4 \cdot 9$ Multiplication Prop (≠) $d > 36$



Solve each inequality. Don't forget to show work, give properties as reasons, and graph your solution on a number line.

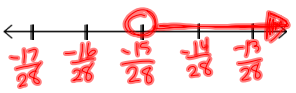
3. $\frac{n}{5} \leq 0.8 \cdot 5$ Multiplication Prop (≠) $n \leq 4$

4. $\frac{0.6n}{0.6} \geq \frac{0.48}{0.6}$ Division Prop (≠) $n \geq 0.8$

Solve each inequality. Don't forget to show work, give properties as reasons, and graph your solution on a number line.

5. $\frac{2x}{3} \geq 7 \cdot 3$ Multiplication Prop (≠) $\frac{2x}{2} \geq \frac{21}{2}$ Division Prop (≠) $x \geq \frac{21}{2}$ $x \geq 10\frac{1}{2}$

6. $\frac{7}{9}k > -\frac{5}{12} \cdot \frac{9}{7}$ Multiplication Prop (≠) $k > \frac{45}{84}$ $k > -\frac{15}{28}$



Homework

Solving Inequalities by Multiplying & Dividing WKS

* Individual Think Time *

What to do if you get stuck...

1. Reread the problem. Did you write it down correctly?
2. Reread your notes. Is there a problem similar that we did together in class?
3. Find a problem similar in your book. Try this one to see if it helps.
4. Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...