Algebra 1 (CCSP)

Section 2.3: Solving Inequalities by Multiplying or Dividing

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**: Solve one-step inequalities by using multiplication.

Solve one-step inequalities by using division.

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| **Main Idea** | **Notes** |
| **Exploration:** | 2.3 Exploration: Solving Inequalities by Multiplying or Dividing |
| **Solving Inequalities:** | Solving inequalities is similar to solving \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  To solve an inequality with multiplication or division, undo the operation by  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ both sides by the same number. |
| **Multiplication and Division Properties of Inequality:** | Let c be a ***positive*** number.  Multiplication:  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Division:  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  The same is true for \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Example 1: Solving Inequalities**  **Example 1 (Continued): Solving Inequalities** | Solve each inequality and graph its solution.  a) 7x > -42  **http://img.ehowcdn.com/article-new/ds-cdn-write/upload/6000/000/30/5/176035.jpg**  b) 2.4 ≤  http://img.ehowcdn.com/article-new/ds-cdn-write/upload/6000/000/30/5/176035.jpg  c) ¾r < 12  **http://img.ehowcdn.com/article-new/ds-cdn-write/upload/6000/000/30/5/176035.jpg** |
| **Multiplying or Dividing Inequalities by a Negative:** | What About Negatives????  IMPORTANT:  Whenever you multiply or divide by a negative number, you MUST ***\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*** the inequality symbol. |
| **Multiplication and Division Properties of Inequality:** | Let c be a ***negative*** number.  Multiplication:  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  Division:  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  If \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, then \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  The same is true for \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Example 2: Solve and Graph the Inequality**  **Example 2 (Continued): Solve and Graph the Inequality** | Solve each inequality and graph its solution.  a) -12x > 84  **http://img.ehowcdn.com/article-new/ds-cdn-write/upload/6000/000/30/5/176035.jpg**  b) -8 ≤  http://img.ehowcdn.com/article-new/ds-cdn-write/upload/6000/000/30/5/176035.jpg |
| **Example 3: Writing and Solving Inequalities in the Real-World** | Ryan has a $16 gift card for a health store where a smoothie costs $2.50.  What are the possible number of smoothies Ryan can buy?  Write and solve an inequality. |
| **Exit Ticket:** | Compare the Multiplication and Division Properties of ***Inequality*** to the Multiplication and Division Properties of ***Equality.***  ( Do this on a separate piece of paper. I will collect this for a grade) |
| **Classwork:** | Worksheet: Solving One-Step Inequalities by Multiplying or Dividing |
| **Homework:** | 2.3 Additional Practice Problems |