

SC Algebra 1
6.2 Solving Multi-Step Inequalities - Guided Notes

Warm Up:

Solve each equation.

1. $4y - 14 = -10$

2. $7(2 + k) = 28$

3. $\frac{p}{1.5} - 3.2 = 0.8$

4. $3(r + 4) - 5(r - 1) = 5$

REMINDER! When _____ or _____ by negative numbers, the inequality symbol _____ directions.

Example 1: Apply Multi-Step Inequalities

- a) Suzy wants to self-publish her comic book. One printing company offers to publish the book for a \$220 flat rate plus \$3 per copy of the book. Her maximum budget is \$400. Write and solve an inequality to determine the number of copies Suzy can have made within her budget.

- b) While building a computer with a power supply that can handle up to 850 watts, Jayden needs to determine the number of hard drives he can add. Without any hard drives, the computer uses a maximum of 750 watts. He knows that each hard drive will use at most 25 watts.

Example 2: Write and Solve a Multi-Step Inequality

For each statement, write and solve an inequality. Graph your solution set on the number line.

- a) The opposite of a number divided by two minus seventeen is less than seven.



- b) Three plus five times a number is no more than thirteen.

**Examples 3: Solve an Inequality with the Distributing Property**

Solve each inequality. Then graph the solution on a number line..

a) $4(2x - 11) \leq -12 + 2(x - 4)$



b) $7(2x - 2) \geq -42 + 7(x + 2)$

