

Warm Up:

Solve each equation.

1. $54 - p = 20$

2. $h + 5 = -7$

3. $-3t = 204$

4. $\frac{2}{3}k = 60$

Speak Like A Mathematician

inequality: a mathematical sentence that contains the symbols, _____, _____, _____, or _____.

set-builder notation: mathematical notation that describes a _____ by stating the properties that its members must _____.

less than
graph:
words:
greater than
graph:
words:
less than or equal to
graph:
words:
greater than or equal to
graph:
words:

SC Algebra 1
6.1 Solving One-Step Inequalities – Guided Notes

Example 1: Graph Inequalities

Graph each solution set.

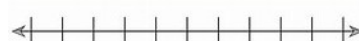
a) $n > 0$



b) $p < 2$



c) $x \geq -3$



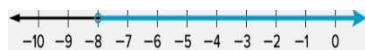
d) $y \leq 4$



Example 2: Write an Inequality from a Graph

Write an inequality for each graph.

a)



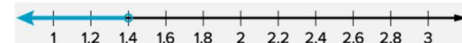
b)



c)



d)



Examples 3 & 4: Solve Inequalities by Adding or Subtracting

Solve each inequality. Express each solution set in set builder notation.

a) $x - 10 < 15$

b) $x - 7 \leq 15$

c) $x + 24 \geq 61$

d) $-22 > z + 6$

Set-Builder Notation:

$\{$ the set of x such that $x \leq 2$ $\}$
 x is less than or equal to 2

SC Algebra 1

6.1 Solving One-Step Inequalities – Guided Notes

Example 5: Solve Inequalities with Variables on Both Sides

Solve each inequality. Express each solution set in set builder notation.

a) $9y + 3 \geq 10y$

b) $-5 + a < 2a$

Examples 6 & 7: Use an Inequality to Solve a Problem

Hassan's wireless contract allows him to use at most 5 gigabytes (GB) of data per month. At this point, Hassan has used 3.7 GB of data. Write and solve an inequality to calculate how many gigabytes of data Hassan has left to use for the rest of the month without exceeding his maximum allowance.

Joo-won's blog received 320 views after his most recent post, bringing its total views up to more than 1000. How many views n did Joo-won's blog have before his most recent post?

***** **IMPORTANT:** Solving Inequalities is the SAME as solving equations, EXCEPT:

Example 8: Solve Inequalities by Multiplying or Dividing

Solve each inequality. Graph the solution set on a number line.

a) $-\frac{2}{5}x \leq 11$



b) $-\frac{3}{7}x > 24$



c) $20x < 4$



d) $4b < 36$



e) $-13z \geq 117$



f) $-126 \geq -7p$

