

6.0.2: Linear Inequalities in 1 Variable

Inequality: _____

It can be written in the form: _____

Boundary Point: _____

Open circle:

Closed circle:

Example 1: Solve each inequality.

a) $x - 3 \geq 2$

b) $-5 > \frac{x}{3}$

c) $-2x < 8$



When multiplying or dividing by a negative sign you _____ the _____.

Example 2: Solve. State your answer in 3 different ways.

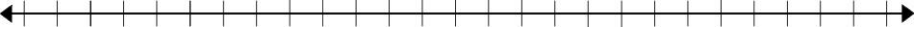
a) $x - 1.6 \leq -5.6$

b) $-10 > 4x$

c) $\frac{x}{-8} \geq 3$

Example 3: Solve and graph, verifying your answers

1. Solve $-2x > 12$

2. Graph 

3. Verify

a. Check a point inside shading

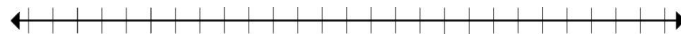
b. Check a point outside shading

Example 4: Solve:

a) $\frac{x}{4} + 3 > 8$



b) $-3x - 10 \leq 5x + 38$



Example 5: Solve a problem using inequalities

Sarah has offers for a position as a salesperson at two local electronic stores. Store A will pay a flat rate of \$80 per day plus 3% of sales. Store B will pay a flat rate of \$65 per day plus 5% of sales. What do Sarah's sales need to be for store B to be the better offer?

- a) Write an inequality to model the problem. Are there any restrictions on the variable? Explain.



- b) Solve the inequality and interpret the solution

Example 6: Model and solve a problem

A game store is offering games on sale for \$39.50, including tax. Sean set his spending limit to \$150. How many games can Sean buy and stay within his limit.

- a) Write an inequality to model the problem. Are there any restrictions on the variable? Explain.

- b) Solve the inequality and interpret the solution

