

Homework 2

Solving Linear Equations and Inequalities

Name: _____

Show all algebraic steps clearly. Graph all inequality solutions on the provided number lines.

Part I: Solve the Linear Equations

Solve each equation.

1.

$$-5x = 7x + 1$$

2.

$$5 - 5x = x - 2(2 + x)$$

3.

$$\frac{1}{2}(x - 3) = 4(x - 12)$$

4.

$$3(x + 4) - 1 = 3x - 2$$

5.

$$2(r + 10) = -2(15r + 10)$$

6.

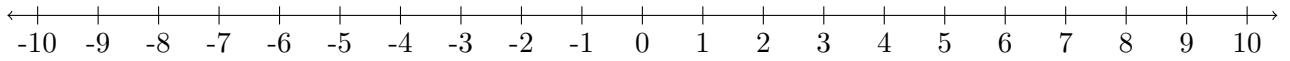
$$3(x + 2) - 5 = 2(x - 3) - 7$$

Part II: Solve and Graph the Inequalities

Solve each inequality and graph the solution on the number line.

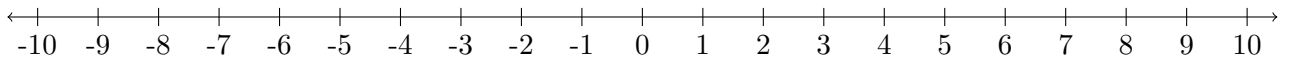
7.

$$-\frac{2}{3}n \leq 4$$



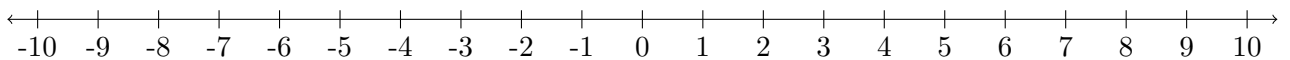
8.

$$2 \leq -\frac{3}{5}w + 1$$



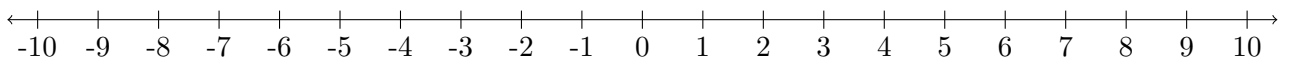
9.

$$4x - 3 > 2(x - 1)$$



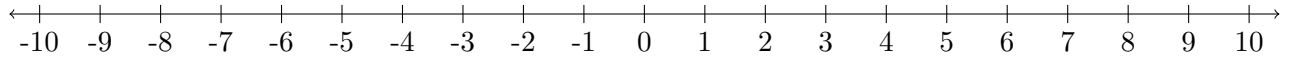
10.

$$7x - 4 \leq 3(x - 4)$$



11.

$$-2 < 3x + 1 < 16$$



12.

$$-2x + 7 > 3 \quad \text{or} \quad 3x - 4 \geq 5$$

