Linear Inequalities in One Variable

1. Write each inequality using interval notation. Graph the inequality:

$$-2 < x \leq 4$$

2. Write each inequality using interval notation. Graph the inequality:

$$x < 3$$

3. Write each interval as an inequality involving x. Graph each inequality:

$$[5,9)$$

4. Write each interval as an inequality involving x. Graph each inequality:

$$(-3,\infty)$$

5. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$7x - 2 \leq 19$$

6. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$-3x-2<13$$

7. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$4x+6\geq 2x-10$$

8. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$-2(x-7)+5x<8(x+1)-5$$

9. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$\frac{1}{4}(2x-3)<\frac{1}{3}(x+1)$$

10. Solve each linear inequality. Express your solution using set-builder notation and interval notation. Graph the solution set.

$$\frac{3}{4}-\frac{1}{8}x>-3$$