Compound Inequalities

1. Use A = {2, 3, 4, 5, 6}, B = {1, 3, 5, 7, 9}, and C = {2, 4, 6, 8} to find each set

$$A \cup C$$

2. Use A = {2, 3, 4, 5, 6}, B = {1, 3, 5, 7, 9}, and C = {2, 4, 6, 8} to find each set

$$A \cap C$$

3. Use the graph of the inequality to find each set.

$$A = \{x \mid x \geq 3\}; B = \{x \mid x < 1\}$$
$$Find \quad (a) A \cap B \quad and \quad (b) A \cup B$$

4. Use the graph of the inequality to find each set.

$$E = \{x \mid x \leq 3\}; F = \{x \mid x \geq -1\}$$
$$Find \quad (a) E \cap F \quad and \quad (b) E \cup F$$

5. Solve each compound inequality. Graph the solution set.

$$x - 5 \leq 2 \quad and \quad 3x - 2 \geq -8$$

6. Solve each compound inequality. Graph the solution set.

$$-10 < 5x + 5 \leq 3$$

7. Solve each compound inequality. Graph the solution set.

$$0 < \frac{5}{3}x - 2 \leq 4$$

8. Solve each compound inequality. Graph the solution set.

$$-4 < -7(x-1) < 10$$

9. Solve each compound inequality. Graph the solution set.

$$4x \geq 9x + 10 \quad or \quad x < 3x - 6$$