Solving Compound Inequalities – 1 variable

Procedure:

- 1. Determine if the compound inequality is connected by "and" or "or".
- 2. Solve each inequality
- 3. If compound inequality is connected by an "and", then the solution must satisfy each statement. The solution is where the graphs of each overlap.
- 4. If the compound inequality is connected by an "or" statement, then the solution can satisfy either or both statements. The solution is the graph of both solutions.

1.
$$12 < 2x \le 16$$
 2. $x < 5$ and $2x > 3$

3. x+1 < 3 or $2x-1 \ge 7$ 4. 3x+2 > 20 or 2x+5 < -3

5.
$$-3 \le 2x + 1 \le 9$$
 6. $2x - 5 \ge 1$ and $3x + 2 \ge 14$

7. $2x-5 > 1 \text{ or } 3x+2 \ge 14$ 8. $-10 \le 2x+3 \le 5$