Polynomial and Rational Inequalities

1. Solve each polynomial inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$x^2 + 4x - 5 < 0$$

2. Solve each polynomial inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$15x^2 + x - 2 \geq 0$$

3. Solve each polynomial inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$x^2 \leq 3x + 3$$

4. Solve each polynomial inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$x^3 + 7x^2 - 4x - 28 < 0$$

5. Solve each polynomial inequality and graph the solution set on a real number line. Express each solution set in interval notation
(oddball cases)

$$x^2 - 4x + 4 < 0$$

6. Solve each rational inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$\frac{x+3}{x-1} > 0$$

7. Solve each rational inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$\frac{(x-4)(x+3)}{x-1} \leq 0$$

8. Solve each rational inequality and graph the solution set on a real number line. Express each solution set in interval notation

$$\frac{x}{x-3} \geq 2$$