# **2.7 Polynomials & Rational Inequalities**

# Practice Problem 1:

Solve and graph the solution set:

$$x^{2}-x>20$$

# Practice Problem 2:

Solve and graph the solution set on a real number line

$$2x^{2}\leq -6x-1$$

# Practice Problem 3:

Solve and graph the solution set on a real number line

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

# Practice Problem 4:

Solve and graph the solution set on

$$\frac{2x}{x+1}\geq 1$$

# Practice Problem 5:

An object is propelled straight up from the ground level with an initial velocity of 80 feet per second. It’s height at time t is modeled by

$$s\left(t\right)=-16t^{2}+80t$$

Where the height s(t) is measured in feet and the time, t, is measured in seconds. In which time interval will the object be more than 64 feet above the ground?

Answers

1. (-∞, -4) U (5, ∞)
2. [$\frac{-3-\sqrt{7}}{2}, \frac{-3+\sqrt{7}}{2}]$
3. (-∞, -3] U [-1, 1]
4. (-∞, -1) U [1, ∞)
5. (1,4) Between 1 and 4 seconds not including 1 or 4.