Written Homework

Your carefully written solutions to the following questions will be due at the beginning of class on Monday, October 27. Show all of your work, and explain your steps as if you were teaching someone else how to solve these problems.

1. The height above the ground of a ball $t$ seconds after it is thrown into the air is given by the function $h(t) = 6 + 88t - 16t^2$ feet.
   (a) Find the height of the ball after 1.5 seconds.
   (b) How long will it take the ball to hit the ground?
   (c) What is the maximum height the ball will reach?

2. A company’s profit when producing and selling $x$ Things is $P(x) = 30x - 0.01x^2 - 200$ dollars.
   (a) How many Things should the company produce to break even?
   (b) How many Things should the company produce to maximize profit?
   (c) What is the maximum possible profit for this company?

3. Simplify each of the following expressions by reducing them to lowest terms:
   (a) $\frac{x^2-x}{x-1}$
   (b) $\frac{x^2-1}{x-1}$
   (c) $\frac{22ab}{33a^2}$
   (d) $\frac{x^2+3x+2}{x^2+2x+1}$
   (e) $\frac{x-1}{2-2x}$
Daily Practice Problems

You should do the suggested reading below and attempt these exercises after class each day. You will not submit solutions to these questions for grading, but you may use them as notes during the weekly quizzes on Fridays.

After class on **Tuesday, October 21**, read Section 7.6 and work the following exercises:
Section 7.6, # 19, 35, 39

After class on **Wednesday, October 22**, work the following exercises:
Section 7.6, # 15, 31, 33

After class on **Thursday, October 23**, read Section 8.1 and work the following exercises:
Section 8.1, # 1, 3, 13, 19, 25

After class on **Friday, October 24**, finish reading Section 8.1 and work the following exercises:
Section 8.1, # 27, 31, 35, 41