Homework for Week 5  
Jan. 28-Feb. 1, 2008

The textbook exercises listed here should be completed before class begins; students will share solutions to these exercises at the beginning of class. You should be prepared to share a solution to any one of these.

Before Class on **Tuesday, January 29**, finish reading Section 7.4 and work the following exercises:
Section 7.4, # 13, 15, 17, 23

Before Class on **Wednesday, January 30**, work the following exercises:
Section 7.4, # 27, 31, 33, 35

Before Class on **Thursday, January 31**, read Section 7.5 (upto page 535) and work the following exercises:
Section 7.5, # 9, 11, 13

Before Class on **Friday, February 1**, finish reading Section 7.5 and work the following exercises:
Section 7.5, # 21, 23, 25, 31

Before Class on **Monday, February 4**, work the following exercises:
Section 7.5, # 39, 41, 43
Additional Practice Problems

Practice as many of these problems as you can. You may use your solutions as notes during the quiz on Tuesday, February 5.
Section 7.4, # 19, 21, 25, 29
Section 7.5, # 1, 5, 7, 15, 17, 19, 27, 29, 33, 35, 45, 47

Written Homework

Your typed solutions to the following questions will be due at the beginning of class on Monday, February 4. Remember to save your document electronically so that you can make corrections to these solutions since they will become part of your portfolio.

Problem #7: You operate a company that makes and sells Things. Your marketing division tells you that the number of Things you will sell depends on the price you set. In particular, they estimate that, if you charge $x$ dollars each, you will sell $(5000 - x)$ Things.

(a) Write down a formula for the total revenue (in dollars) you will make if you set the price at $x$ dollars. Note: Revenue is the cost per unit multiplied by the total number of units you sell.

(b) Use the function from part (a) to determine what price will earn your company the greatest revenue.

Problem #8: A ball is thrown straight up in the air, from an initial height of 6 feet, and its height above the ground $t$ seconds later is

$$h(t) = 6 + 88t - 16t^2.$$  

(a) What is the maximum height the ball will reach?

(b) How long will it take the ball to hit the ground?