Homework for Week #4

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, July 17, read Section 5.3 and work the following exercises:
Section 5.3, # 21, 23, 25, 29, 31, 37

Before Class on Wednesday, July 18, read Section 6.1 and work the following exercises:
Section 6.1, # 25, 33, 39, 43
Section 6.3, # 13, 15, 19

Before Class on Thursday, July 19, read Section 6.4 and work the following exercises:
Section 6.4, # 3, 5, 9, 15, 21, 23

Before Class on Monday, July 23, read Section 6.4 and work the following exercises:
Section 6.4, # 27, 29, 39, 41

Additional Practice Problems

Practice as many of these problems as you can.

Section 5.3, # 1, 5, 11, 15, 27, 33, 35, 39, 41
Section 6.1, # 1, 27, 29, 31, 37, 41, 45
Section 6.3, # 1, 3, 5, 9, 11, 17, 21, 23, 25
Section 6.4, # 1, 7, 11, 13, 17, 19

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Portfolio Questions

Your typed solution to the following questions will be due in class on Monday, July 23. Remember to save your work so that you can edit it or make corrections for your portfolio submission at the end of the course.

Problem #6: You operate a company that makes and sells Super Widgets. Your marketing division tells you that the number of Super Widgets you will sell depends on the price you set. In particular, they estimate that, if you charge $x$ dollars each, you will sell $(5000 - x)$ Super Widgets.

(a) Write down a formula for the total revenue (in dollars) you will make if you set the price at $x$ dollars. \textit{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 #7: 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?