LB 118, Section 003, Spring 2016
Homework 8 (due 03/23)

Instructions: Please review the section of the course syllabus on homework before writing up your solutions to the problems below. Do not write on or turn in this document. Instead, write your solutions on looseleaf or blank paper. Homework is due at the start of class.

Please read through sections 3.6, 5.1, and 5.2 of the textbook and carefully work through each of the Explore exercises before attempting the problems below.

1. Solve Exercises 3.6.4.

2. Solve Exercise 3.6.6.

3. Solve Exercise 5.1.2, part (a) only. Please generate your graph using RStudio and print out the result. Also, please write down (or print out) the commands you entered to produce the graph. (Both the line and the exponential curve should appear on the same graph.)

4. Solve Exercise 5.1.7. In part (a), you are to give approximate values; to do so, please use a left, right, or centered difference quotient (your choice) using $h = 0.0001$. For part (b), use RStudio to produce the graph. What is the significance of the plot of $P'(t)$ versus $P(t)$?

Self-study Problems. The following exercises are for self-study. Please do not turn in solutions to these exercises. On the other hand, please do ask how to solve these problems on our Piazza discussion forum if you find some which you are not certain how to solve or one for which you are not certain you've found the correct answer.

Chapter 3 Exercises: 3.1.1, 3.1.5–3.1.7, 3.1.11–3.1.14, 3.2.1 (a,b), 3.2.5, 3.2.6, 3.2.10, 2.2.11, 3.3.1–3.3.5, 3.3.7 (use R to plot the function), 3.3.8, 3.3.9, 3.4.1–3.4.3, 3.5.1, 3.5.5, 3.5.7–3.5.10, 3.5.12, 3.5.13, 3.5.17–3.5.20, 3.6.1, 3.6.1, 3.6.5, 3.6.8–10, 3.7.1, 3.7.2.

Chapter 4 Exercises: 4.1.2, 4.1.5, 4.2.1, 4.3.1, 4.4.1–4, 4.5.3, 4.6.1, 4.6.2, 4.6.4.

Chapter 5 Exercises: 5.1.1, 5.1.3–6, 5.2.1, 5.2.3, 5.2.8, 5.2.9; additional exercises for Chapter 5 will added to this list of self-study problems.