LB 118, Section 003, Spring 2016
Homework 7 (due 02/29)

Instructions: Please review the section of the course syllabus on home-work 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 3.3–3.5 of the textbook and carefully work through each of the Explore exercises before attempting the problems below.

1. Solve Exercise 3.3.2 parts c and f. You must use algebraic methods to solve these exercises. Show all of the steps you take to compute the limit.

2. Solve Exercise 3.3.3.

3. Solve Exercise 3.3.8. You do not need to recompute the derivatives of $S(t) = t^2$ and $R(t) = \sqrt{t}$ using the definition of the derivative. You can use the formulas we have already verified: $S'(t) = 2t$ and $R'(t) = 1/(2\sqrt{t})$.

4. Solve Exercise 3.5.14. When you write your solution to this problem, you should summarize what the question is asking rather than re-write it verbatim, as the statement is quite lengthy.

   (Hint: You will need to read through section 3.5 to understand what is that you need to do to find the value of r which maximizes M.)

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 2 Exercises: 2.1.1, 2.2.1–2.2.5, 2.3.1–2.2.4, 2.3.6, 2.3.7, 2.6.1, 2.6.3–2.6.5, 2.6.8, 2.6.13, 2.7.5, 2.7.6, 2.7.9, 2.7.13, 2.8.1, 2.8.2, 2.8.4, 2.8.7, 2.8.8, and 2.8.11.

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. Additional problems will be added to this list as we work through Chapter 3.