Outline for Exam 2

The exam will cover sections 2.6-2.8 and 3.1-3.5. The topics by section are

2.6 Higher derivatives.

2.7 Implicit differentiation.

2.8 Related rates. Setting up and solving related rates problems.

3.1 Increasing and decreasing functions. Critical numbers and critical points. Charting the
sign of the first derivative.

3.2 Relative extrema and the first derivative test. Absolute extrema. Finding the absolute
extrema of a function on a closed interval \([a, b]\).

3.3 Concavity, inflection points and the second derivative test.

3.4 Optimization. Setting up and solving optimization problems. Primary and secondary
equations.

3.5 Optimization problems in business. Maximization of profit and revenue. Minimization of
cost and average cost.

Review In addition to the homework problems, and the examples from the lecture, you can practice
for the exam by doing problems* 81-87 odd, 91-97 odd and 100 from the chapter 2 review,
and 1-29 odd, 33-43 odd, 49 and 50 from the chapter 3 review.

* Skip the parts of the problems involving graphing utilities.