Math 16A: Short Calculus I
Fall 2017, Section 3
Homework Sheet 8
Due: Monday, November 27, 2017

Submit your solutions to the following problems in lecture on the due date above. Present your work in a clean and organized fashion, either on a printed copy of this document (preferred) or a separate sheet of paper. As stated in the syllabus, late submissions will **not** be accepted.

1. Suppose you want to build a jewelry box with a square bottom and open top. If you have 12 ft^2 of building material, what are the dimensions of the box with the maximum volume?

2. Suppose you are swimming 20 ft/sec in a 20ft by 48ft pool, long-ways in the middle lane (i.e. 10 ft from each of the longer sides). There is a lifegard standing at the corner of the pool, watching you swim away. How fast is your distance from the lifeguard changing when you are halfway across the pool?