Math 16A: Short Calculus I
Fall 2017, Section 3
Homework Sheet 6
Due: Wednesday, November 15, 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 a monkey is sitting at the top of a 10ft tree throws a banana up in the air with an initial velocity of 32ft/sec.

   (a) Find an equation for $s(t)$, the height of the banana above the ground at time t.

   (b) For what values of t is the function $s(t)$ valid?

   (c) What is the maximum height the banana will reach?

2. A man 6 ft tall is standing 10 ft from a lightpole with a light that is 15 ft above the ground. The man then drinks a potion which causes him to shrink at a rate of 1 ft/sec. How fast is the man's shadow shrinking when he is 3 ft tall?