Written Assignment 1
Due Monday, October 1st

1. Do # 2, 8, and 14 in section 2.1 (these three are related and should be done together).
2. Do # 6, 12, and 18 in section 2.1 (same as before).
3. In your own words, explain what a derivative is. Also, find two real-world quantities that can be described as a derivative.
4. Find $\lim_{x\to 0} \frac{\sin(x)}{x}$ using a calculator (make sure your calculator is in radians!). Write a sentence or two describing how you found your result.
5. # 21 - 24 in section 2.2.
6. # 28 in section 2.2. Clarification on instructions: I want you to find the following stuff:
   - ARC in terms of *purely* Δx and nothing else except constants. It should look roughly like this:

     $$ARC = \frac{\text{numbers...}(\Delta x)^{\text{some power}}\text{... more numbers...}}{\text{numbers numbers and maybe some } \Delta x\text{'s}}$$

     A similar example to this is done on page 149 in your book with the function $b(t) = 2^t$.
   - A graph of $f(x)$, along with the graph of the tangent line at that point.

Practice Problems

Directions: These are practice problems that you *should not* turn in. Just do these for practice[1]. You can check your answers for these problems in the back of the book.

Chapter 2.1

Problems 3, 5, 19, 23, and 25.

Chapter 2.2

Problems 3, 5, 7, 9, 11.

[1] These may appear as exam problems in the future.