Name: _____

Pre-class Assessment 1

MA 220

1. Answer the following:
   (a) Find the average of: 20, 25, 30, 35, 40, 50, 60, 70, 90.

   (b) Find the median of the list of numbers from the previous part.

   (c) Find the average of: 20, 25, 30, 35, 40, 50, 60, 70, 900.

   (d) Find the median of the list of numbers from the previous part.

   (e) How do the mean and median differ between the two lists of numbers? Why?

   (f) What is the standard deviation of the numbers in 1a? What does the standard deviation quantify about a list of numbers?

2. The data below show the average weight of a group of newborns as a function of months since birth.

Age (months)	Average Weight (lbs)
0	8
2	18
4	28

(a) What is the average weight of an infant at birth?

(b) Give a function f that models the average weight of an infant as a function of time.

(c) What is the change in average weight between any two months?

(d) What is the domain and range of your function f?

(e) What is your prediction of the average weight of a 10-month old infant?

(f) Are you confident in your prediction from the previous part? Why or why not?

3. Draw the graph of the function f from Question 2.

4. Solve the equation $z = \dfrac{x - \mu}{\sigma}$ separately for each of x, μ, and σ.

5. When is the function $g(p) = p(1 - p), p \in [0, 1]$, minimized? Maximized?
   Hint: Sketch the graph of g on its domain.