MAT 21A, Spring 2017
Homework Assignment 5

Due before the start of the class on Monday, May 15

Please read Sections 3.6, 3.7 and 4.1 of the textbook before starting on the problem set.

Written Assignment:

Section 3.6: 60. Compute the derivative of the function $f(t) = \left(\frac{3t-4}{5t+2}\right)^{-5}$.

94. Find the equation of the tangent line to the graph of $y = \sqrt{x^2 - x + 7}$ at $x = 2$.

Section 3.7: 46. a) Find the slope of the tangent line to the folium of Descartes

$$x^3 + y^3 - 9xy = 0$$

at points $(4, 2)$ and $(2, 4)$.

b) At what point other than the origin does the folium have a horizontal tangent?

c) Find the coordinates of the points where it has vertical tangents.

Section 4.1: Find the absolute maximum and the absolute minimum of the function $f(x) = e^{-x^2}$ on the interval $[-2, 1]$.

The homework must be legible, and written in connected sentences that explains what you are doing. Just the answer (whether correct or not) is not enough. Please put your name and section number on every page and staple the pages together. Homework should be handed in on time, late homework will not be graded.