MAT 125-Final Exam Part 1-Fall 2015-Lecture 3

NAME:_____

TA Name:_____

When do you have recitation?_____

∗This exam is pass/fail. You must score 9 out of 12 to pass.

1. Find the absolute maximum of $f(x) = 2x^2 - 8x$ for $0 \leq x \leq 3$.

2. Find the derivative of $\sqrt{3 + \cos x} - \ln(\ln x - 2)$

3. Find the x value of the inflection point for $f(x) = 7 - 3x - 5x^3$.

4. Find the derivative of $(2x + 1)^{31} \sin x$.

5. Determine the x value of any critcical points for $f(x) = \frac{x^3}{3} - 25x$.

6.Write the equation of the tangent line to $y = \tan x$ at $x = 0$.

7.Determine the horizontal asymptote of $y = \frac{80x+e^x}{8x+e^x}$

8.If the position of a particle is given by $e^{\sin t}$, find the acceleration.

9.If $a(t) = \frac{-1}{\sqrt{1-t^2}}$ is the acceleration of an object, find its velocity if $V(0) = 3$.

10.If $f'(x) = -x^2 - 1$, on what interval(s) is f concave down?

11.Draw a graph of $y = x^{-\frac{8}{5}}$.

12.Draw a graph of any antiderivative of e^{-x}.