

MAT 123-FINAL EXAM-Spring 2010

NAME: _____

TA Name: _____

*Each numbered question is worth 17 points.

1. For all parts in question #1 $f(x) = \tan x$

a.) Find the slope of the secant line on f from $x=0$ to $x=\frac{\pi}{3}$.

b) Write an expression for $f'(x)$.using the difference quotient but do NOT simplify.

c) Given that $f'(x) = \sec^2 x$, write the equation of the tangent line on f at $x = \frac{\pi}{4}$.

d) Draw a graph of $f'(x)$ for one period of $f(x)$.