3/23/2006 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 9 (20 Points Total)

Neatly show all of your work on the quiz. Each problem counts 5 points.

I. Find the indicated derivatives.

(a) $y = \dfrac{1}{\sin^3(x^2+4x+1)}$, $\dfrac{dy}{dx} = ?$

(b) $y^5 + x^2y^3 = x + e^y$, $\dfrac{dy}{dx} = ?$

(c) $f(t) = e^{3t}\sin(4t)\cos(5t)$, $f'(t) = ?$

II. The line l is tangent to the graph of the equation $x^2 + 3xy + y^2 = 1$ at $x = 0$. A graph of the line and equation is given below. Find the slope of the line.