9/24/2001 MA303 Calculus I Name:_____
Dr. Lunsford Quiz 6 (20 Points Total)

I. Use the definition of the derivative function to find $f'(x)$ where $f(x) = 2 - x - 3x^2$. Obviously you should get $f'(x) = -1 - 6x$ for your answer! I want you apply the definition of the derivative to derive this answer! (8 points)

II. Find the indicated derivatives. (4 points each – 8 total)

a. $y = \sqrt[3]{x^4} - 4\cos x$

$\frac{dy}{dx} =$

b. $f(t) = \frac{3t^2 - 4t + 1}{t}$

$f'(t) =$

III. Below you are given the graph of $y = x^3 - 3x^2 + 3$. Find the slope of the tangent line to the graph at $x = 1$ and draw the tangent line on the graph below. Clearly indicate the point of tangency of the line. (4 points)