Pledge:

2/24/2009 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 6 (20 Points Total)

I. Find the indicated derivatives. Neatly show all work and clearly indicate your answer. (3 points each, 12 points total)

(a) $l(x) = e^4 + \pi^3 e^x$, $l'(x) =$

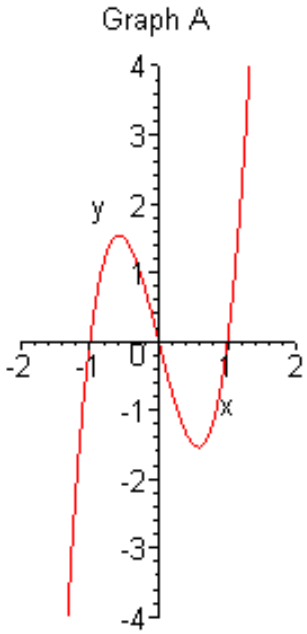
(b) $y = \dfrac{2x^3 - 4\sqrt[4]{x}}{x^4}$, $\dfrac{dy}{dx} =$

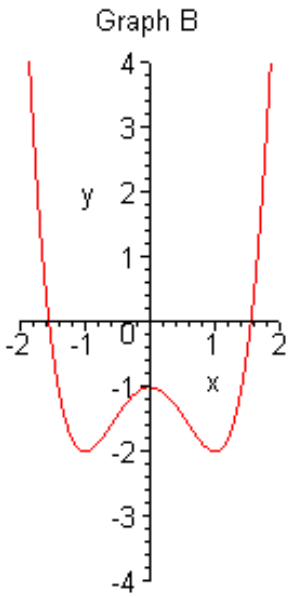
(c) $z = \left(\pi^2 r^3\right)^2$, $\dfrac{dz}{dr} =$

(d) $p(t) = \dfrac{7}{t^8} + \dfrac{1}{\sqrt{t^3}} + 11e^x$, $\dfrac{d}{dt}p(t) =$

II. Below you are given two graphs drawn on the same scales, Graph A and Graph B. One of these graphs is the graph of a function and the other is the graph of the derivative of the function. Which is which? (2 points)

Function = _____ Derivative of Function = _____





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III. Find the equation of and accurately graph the tangent line to the function $f(x) = x\sqrt{x}$ that is parallel to the line $y = 1 + 3x$. Below you are given the graph of f and the graph of the line drawn on the same axes. Neatly show all work to optimize your chance of receiving partial credit. Clearly indicate your answers. (6 points total)