Pledge:

10/18/2011 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 6 (30 Points Total)

I. Find the indicated derivatives. Neatly show all work, simplify your answers, and clearly indicate your answer. (4 points each, 16 points total)

(a) $l(x) = 6\sqrt[3]{x^5} - \frac{8}{x^9} + e^3$

$l'(x) =$

(b) $y = \frac{2w^2 - 4\sqrt{w} + 7}{w}$

$\frac{dy}{dw} =$

(c) $z = e^r \sec(r)\tan(r)$

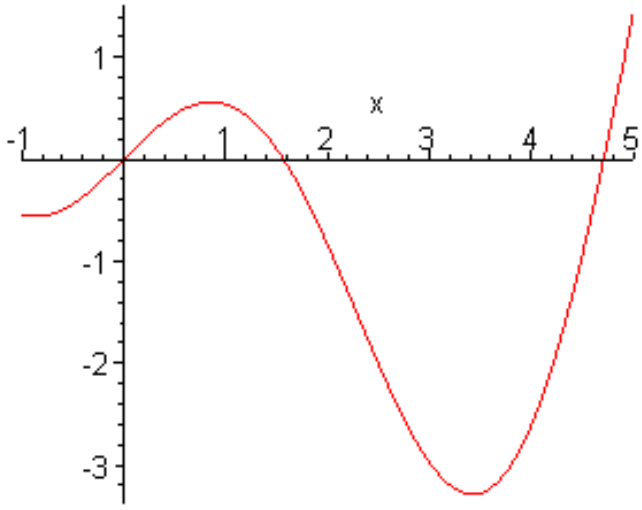
$\frac{dz}{dr} =$

(d) $p(t) = \frac{3t^2 + t}{1 - t}$

$\frac{d}{dt}p(t) =$

Pledge:

III. Find the equation of and accurately graph the tangent line to the function $f(x) = x\cos(x)$ at $x = \pi$. Below you are given the graph of f. Neatly show all work to optimize your chance of receiving partial credit. Clearly indicate your answers. (6 points total)



II. Find the indicated derivative. DO NOT SIMPLIFY your answer (8 points).

$$\frac{d}{dx}\left(\frac{\frac{e^x}{x^3} - x^{-4}}{\sqrt{x^3} - 7x^8\sin(x)}\right)$$