Pledge:

11/1/2011 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 8 (40 Points Total)

I. Find the indicated derivatives. Neatly show all work, DO NOT simplify your answers, and clearly indicate your answer. (8 points each, 24 points total)

(a) $l(x) = \cos\ 4x^2\ \arctan\ 11x$

$l'(x) =$

(b) $y = \dfrac{2^w}{\ln\ w^2 + 1}$

$\dfrac{dy}{dw} =$

(c) $z = \log_7\ 24x^3\ + 8\arcsin\ xe^x$

$\dfrac{dz}{dx} =$

Pledge:

II. Use implicit differentiation to find $\frac{dy}{dx}$ assuming y is a differentiable function of x that satisfies the following equation: $x^2y^2+\sin(y)=\cos(x-y)+\sqrt[3]{x^2}$. You must neatly show all work. (8 points total)

III. Below you are given the graph of $3x^2+4y^2=25-3xy$. Find and accurately graph the equation of the tangent line to the graph at the point $1,2$. (8 points)