

Pledge:

10/12/2005
Dr. Lunsford

MATH261 Calculus I
Quiz 8

Name: _____
(20 Points Total)

I. Find the indicated derivatives. Do not simplify your answers. (4 points each - 8 total)

(a) $y = \frac{\sec 3\theta}{\sqrt{\theta^3}}, \frac{dy}{d\theta} =$

(b) $g(x) = \cos^3(7x^2 + x), g'(x) =$

II. Find the indicated limits. For each limit you must explicitly show how you use the fact that $\lim_{u \rightarrow 0} \frac{\sin u}{u} = 1$. (3 points each, 6 total)

(a) $\lim_{\theta \rightarrow 0} \frac{\sin(3\theta)}{\sin(4\theta)}$

(b) $\lim_{x \rightarrow 0} \frac{\tan x}{x}$

II. The graph of the equation $x^3 - y^3 = -6xy$ is given below. Find the equation of the tangent line to the graph at the point $(3, -3)$. Accurately graph this line on the graph below. (6 points)

