3/9/2006 MATH261 Calculus I Name:_____
Dr. Lunsford Quiz 8 (20 Points Total)

Neatly show all of your work on the quiz.

I. Find the indicated derivatives. Do not simplify your answers. (3 points each, 15 total)

(a) $l(x)=\dfrac{2}{x+1}$, $l'(x)=?$

(b) $y=\left(w^4-\cos w\right)^4$, $\dfrac{dy}{dw}=?$

(c) $u=\sec(3t^2+t)$, $\dfrac{du}{dt}=?$

(d) $y=\dfrac{3}{e^{5t}}$, $\dfrac{dy}{dt}=?$

(e) $f(x)=\sqrt{x+\sqrt{x}}$, $f'(x)=?$

II. Jodi walks along a straight line with position function $p(t)=\sqrt{3t+1}$ where $p(t)$ is in meters and t is in seconds. Below you are given the graph of her position function. Please answer the following: (5 points total)

(a) How fast is Jodi walking at time $t=1$ second? (3 points)

(b) Accurately graph the line whose slope represents the velocity you found in part (a). (2 points)