

11/7/2003
Dr. Lunsford

MA 171 Calculus A
Quiz 11

Name: _____
(20 Points Total)

I. Find the indicated integral or derivative. Neatly show all of your work, clearly indicate your answers.
(11 points total)

(a) $\int_1^4 \frac{1+x}{\sqrt{x}} dx$
(4 points)

(b) $\int (3t^7 + 5 \cos t - 4) dt$
(4 points)

(c) $\frac{d}{dx} \int_0^x t^2 \sin t dt$
(3 points)

II. A particle has velocity function $v(t)$ where velocity is in ft/s and time is in seconds. Below you are given the graph of the velocity function of the particle. The area of shaded region (1) is 1 and the area of shaded region (2) is 4. Use this information to find the value of each integral below and explain the physical meaning of each integral in terms of the distance traveled by the particle. (3 points each – 9 total)

(a) $\int_0^1 v(t) dt$

(b) $\int_0^3 v(t) dt$

(c) $\int_0^3 |v(t)| dt$

