Name: _____

1. Class notes for this week: This week we have had exam review and covered Section 4.4. Next week we will cover Sections 5.5 and 4.5. I will be out of town on Monday; Professor Gerhardt will teach your class. Office hours will be W 10-11, W 2-3, and R 3-4. Midterm grade reports will be distributed Wednesday in class.

2. (a) (1 point) Find the indefinite integral

$$\int \frac{1 + \cos^2 \theta}{\cos^2 \theta} d\theta$$

(b) (1 point) Find the definite integral

$$\int_0^{\frac{\pi}{4}} \frac{1 + \cos^2 \theta}{\cos^2 \theta} d\theta$$

(c) (1 point) Find the definite integral

$$\int_1^{64} \frac{1 + x^{\frac{1}{3}}}{\sqrt{x}} dx$$

3. (2 points) Suppose you know that the acceleration of a particle is $a(t) = t + 2$ and its initial velocity is $v(0) = 3$. How far does the particle travel over the time interval $0 \leq t \leq 6$?