

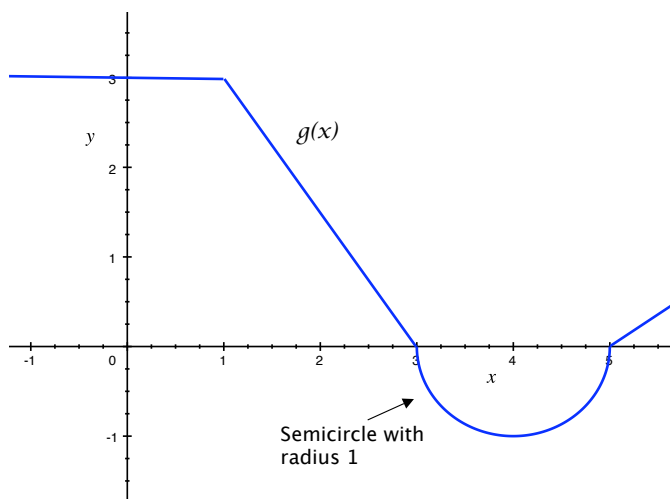
Name: \_\_\_\_\_

**Math 112 Worksheet #6**  
**February 16, 2007**

1. (a) Estimate  $\int_0^2 x^2 dx$  using 4 rectangles. Is your estimate an overestimate, an underestimate, or is it difficult to distinguish whether it is either?

(b) Given your answer to (a), estimate  $\int_{-2}^2 x^2 dx$

2. The graph of  $g$  is given below. Find the following values.



- (a)  $\int_{-1}^1 g(x) dx$
- (b)  $\int_{-1}^3 g(x) dx$
- (c)  $\int_3^5 g(x) dx$
- (d)  $\int_{-1}^5 g(x) dx$
- (e)  $\int_{-1}^5 |g(x)| dx$

3. For velocity  $v(t)$  in ft/sec and  $t$  in seconds, what does  $\int_0^{20} v(t) dt$  represent and give units.

4. The graph below shows the rates of growth in inches per year of two plants for a given year. Assuming both plants began as seeds at time 0, which plant is taller at time  $a$ ? Which plant is taller at time  $b$ ?

