

Name \_\_\_\_\_

Mathematics 105D: Calculus I  
Fall Semester 2012  
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November 30  
Quiz #25

A. Sketch a graph of  $f(t) = 2t$  for  $0 \leq t \leq 5$ .

B. On your graph shade the triangle whose area is  $A_f(x) = \int_0^x f(t)dt$ , where  $x$  is some arbitrary positive number between 0 and 5.

C.  $A_f(0) =$  \_\_\_\_\_

D.  $A_f(2) =$  \_\_\_\_\_

E. Give a formula for  $A_f(x)$ .

F. Give a formula for  $\frac{d}{dx}(A_f(x))$ .