

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

Math 200 Calculus I (Bueler)

29 March 2006

**Quiz # 7**  
*Total of 25 points.*

1. (5 pts) If  $x^2 + y^2 = 25$  and  $dy/dt = 6$ , find  $dx/dt$  when  $y = 4$ .

2. (8 pts) If a snowball melts so that its surface area decreases at a rate of  $1 \text{ cm}^2/\text{min}$ , find the rate at which the diameter decreases when the diameter is 10 cm.

3. (7 pts) Use linearization or differentials to estimate the given number:  $(2.01)^4$ . [No credit will be given for computing it exactly, and computing it exactly may take more time than you wish to spend, but of course you may check your answer if you do.]

4. (5 pts) Five points  $A, B, C, D, E$  are indicated on the graph of  $f(x)$  below. Indicate which is an *absolute maximum*, *absolute minimum*, *local maximum*, *local minimum*, or *neither*.

A:  
B:  
C:  
D:  
E: