Show Your Work! Good Luck!

Math 151

Feb. 26, 2018

Quiz #6 A (last one!)

Name ______________________________ (please print)

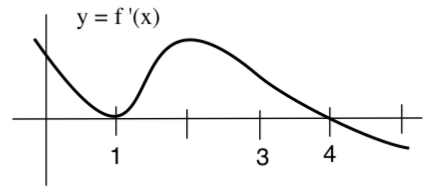
1. The graph of **$y = f'(x)$** is shown.

   (a) At x=1 f has a local MAX MIN NEITHER (circle one).

(4) (b) At x=4 f has a local MAX MIN NEITHER (circle one).

   (c) At x = 3 f is INCREASING DECREASING (circle one)

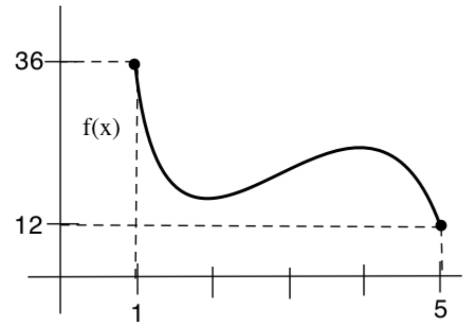
   (d) f(x) is largest when x = 1 2 3 4 5 (circle one)



2. The graph of y=f(x) is shown.

(3) (a) According to the Mean Value Theorem, there is a value of c between 1 and 5 so that f '(c) = ______

(2) (b) On the graph label the location(s) of all of the c's that satisfy the Mean Value Theorem.



3. (a) If f '(x)=g '(x) for all x, then f(x) and g(x) __________________________ (fill in)

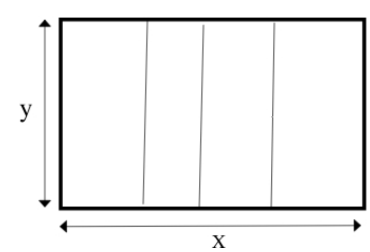
(4) (b) If g is differentiable and g(2) is a global minimum, then g '(2)=0. True False (circle one)

   (c) If f(2) = 7 = f(5) then there is a c between 2 and 5 so that f '(c) = 0. True False (circle one)

   (d) If f '(x) > 0 for all x then f is increasing on [1,7] . True False (circle one)

4. You have 280 feet of wire to enclose the pens in the, The outside fence (thick lines) uses 2 strands of wire and the inside fences (thin lines) consist of 1 strand of wire. What dimensions will maximize the total enclosed area. (Use calculus. Show your work.) x = ______________ y = ___________

(6)



5. f '(x) = (x)(x-2)(x–4)(x–7).

(2) f(4) is a Max Min Neither (circle one)

   f(5) is a Max Min Neither (circle one)