Math 151

Show Your Work! Nov. 6, 2018 Name _____

Good Luck! Quiz #5 A (please print)

1. Use Logarithmic Differentiation to calculate dy/dx for $y = \dfrac{(3x-2)^4(5x+7)^3}{(2x+8)^6}$. (circle your answer)

$\dfrac{dy}{dx} =$

(6)

2. $f'(x) = (x-4)^2(x-6)$ for $1 \le x \le 7$.

(4) (a) What are the **Critical Numbers** of f on this interval? x = _____

(1) (b) At x = 3 the function f is Increasing Decreasing Not enough information (circle one)

3. True or False (Write the entire word)

(1) (a) _____If f is differentiable on the interval [1. 7] and f '(3)=0 then f(3) is a local max or min.

(1) (b) _____If g(2) is a global minimum of g then g '(2) = 0.

4. If f(x) is a cubic polynomial (degree=3) on the interval $0 \le x \le 8$

(2) then f has at most ____ critical numbers on [0. 8].

5. $f(x) = x^2 - 4x + 5$ on the interval $1 \le x \le 4$. Then according to the Mean Value Theorem

(2) (2) there is a value c so that f '(c) = _____ . For this function and interval c = _____ .

6. The graph of y = f(x) is shown for $1 \le x \le 6$. Plot and label the -------> location(s) of the c value(s) from the Mean Value Theorem.

(2)