

NAME _____
please print clearly

Review Quiz
MATH 173

Due: Monday, Sept 28
25 points

Open book, open notes, however you must do all your own work.

To receive credit, please show all *appropriate* work.

Use pencil, otherwise this quiz will not be graded!

(10) 1. Differentiate and simplify when appropriate.

(a) $y = \frac{4x^3 + 3x^2 + 9}{6}$

(b) $z = (4t - 5)^6$

(c) $w = x \sin(3x)$

(d) $s = \frac{2}{\sqrt{t}}$

(3) 2. True or False (True means always true). Please circle T or F.

T F A differentiable function is continuous.

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T F If $f'(c) = 0$, then $f(c)$ is a local extrema (i.e., max or min)

T F The velocity function is the derivative of its position function.

(4) 3. Use calculus to find the minimum *value* for $f(x) = 3x + \frac{75}{x}$, $x > 0$.

(1) 4. The derivative of a function is the limit of its _____
(two words)

(2) 5. Graphically, the derivative of a function, $f'(x)$, is the slope of its
_____ at the point $P = (\quad , \quad)$.
(two words)

(5) 6. Find the following limits, if they exist. Remember to show *appropriate* work.
Points will be subtracted for sloppy mathematics.

$$\lim_{x \rightarrow 3} \frac{x^2 - x - 6}{x - 3}$$

$$\lim_{x \rightarrow 1} \frac{x - 1}{x + 1}$$

(2) Extra Credit: What are the Latin meanings and English translations for the following abbreviations:

i.e.:

e.g.: