

Math 10A

Quiz 2; Tuesday, 6/26/2018

Time: 3 PM

Instructor: Roy Zhao

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

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Circle True or False. (1 point for correct answer, 0 if incorrect)

1. True    False    If  $f, g, h$  are functions, then it is not possible to use the chain rule to find the derivative of  $(f \circ g \circ h)$  because the chain rule only applies for the composition of two functions.
2. True    False    The derivative of a function at a point is the same as the tangent line at that point.

Show your work and justify your answers. Please circle or box your final answer.

3. (10 points) (a) (5 points) Let  $f(x) = x^{-1}e^{1/x^2}$ . Find  $f'(x)$ .

(b) (3 points) Find  $\frac{d}{dx}f^{-1}(x)$  at  $(e, 1)$ .

(c) (2 points) Write the equation of the tangent line to  $f^{-1}(x)$  at  $(e, 1)$ .