

Math 10A

Quiz 3; Friday, 6/29/2018

Time: 3 PM

Instructor: Roy Zhao

Name: _____

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

1. True False The second derivative test will always tell us whether a critical point is a local minimum, local maximum, or neither.
2. True False When we graph a function, the first derivative tells us if the function is increasing or decreasing and the second derivative tells us the concavity.

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

3. (10 points) (a) (3 points) Find y' if $(x - y)^2 = x + y - 1$.

- (b) (7 points) Graph $f(x) = x^3 - x$ by finding the intervals of increasing/decreasing, concavity, etc. (Hint: $f(\sqrt{1/3}) \approx -0.4$, $f(-\sqrt{1/3}) \approx 0.4$)