

Math 10A

Quiz 1; Friday, 6/22/2018

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    As long as we do not divide by 0, we have  $\lim_{x \rightarrow c} f(x) = f(c)$ .

2. True    False    If we can find one horizontal line that hits the function at least once, then the function is surjective (onto).

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

3. (10 points) (a) (6 points) Find  $\lim_{x \rightarrow \infty} \sqrt{x^2 - 4x + 1} - x$ .

(b) (4 points) Write the function that is  $x^3$  shifted to the left by 3 then horizontally stretched by 2 and reflected across the  $y$ -axis. Then compressed vertically by a factor of 2 and shifted down by 2.