

Math 10A with Professor Stankova

Quiz 5; Wednesday, 9/27/2017

Section #107; Time: 11 AM

GSI name: Roy Zhao

Name: _____

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

1. True False It is possible for Newton's method to fail.
2. True False You can change an exponential indeterminate into a form suitable for using L'Hopital's rule.

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

3. (10 points) (a) (5 points) Approximate $(1.1)^{0.1}$ using second order Taylor series. You may leave your answer as a sum of fractions.

(b) (1 point) When using Newton's method to find a zero of a function $f(x)$, what is the formula for the next guess x_1 if my current guess is x_0 ?

(c) (4 points) Use Newton's method once to approximate $(1.1)^{0.1}$.