

Math 10B with Professor Stankova

Quiz 12; Tuesday, 4/23/2019

Section #206; Time: 9:30 AM

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

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

1. True    False    The rejection region depends on the significance level  $\alpha$ .
2. True    False    If  $H_0$  is that there is no wolf, then the boy who cried wolf made a type 2 error.

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

3. (10 points) (a) (4 points) The media says that 90% of the public think that Luka should be the NBA ROY. To test their claim, you ask 9 people who they think should win and only 1 wants Luka to win. If your alternative hypothesis is that less than 90% support Luka, without using CLT, explicitly compute the  $p$  value for this hypothesis test. You may leave your answer as a product.

- (b) (6 points) Now suppose that you ask 100 people and 84 of them want Luka to win. Use a two-sided alternative hypothesis with  $\alpha = 0.05$ . Can you reject the media's claim? (Hint:  $z(2) = 0.4773$ )