Name:

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Math 10a Quiz 12
December 4, 2013

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1. (3 points) Define type I and type II errors for hypothesis tests.

2. (1 point) Fill in the blank: if the p-value is _____ than the significance level α then the data does not give enough evidence to reject the null hypothesis.

3. Researchers test to see if a certain kind of steroid changes the average weight of mice. To do so they inject a sample of 10 mice with the steroid and, after waiting for the weights to stabilize, they compare the average weight of mice with steroids to the known average weight w_0 of normal mice.

   (a) (3 points) Write down null and alternative hypotheses for this investigation.

   (b) (1 point) In terms of this situation (mice, steroids, etc) explain what a type II error would be.

   (c) (2 point) In analyzing this situation, would a z or t test be more appropriate and why?