Stat 254 Assignment Three

Name:_____

Assignments must be completed on this paper. Marks may be deducted for not showing all your work.

1. [3 marks] You are given the following measurements taken from a normal population. Find a 90% upper confidence bound for the population mean. Round your answer to three decimal places.

82.295 85.307 94.860 82.668 87.431

2. [7 marks] Below are commute times (in minutes) for two different students on 12 different days. Both students' commute times are normally distributed. Test at $\alpha = 0.05$ whether Student 1 has a shorter average commute than Student 2.

Student 1:	37	40	42	46	47	52
Student 2:	41	46	41	45	49	54

a) State H_0 and H_a

b) State any necessary assumptions

c) Do you reject H_0 or not? Show all your work.

d) What can you say about the p-value of the test?

3. [5 marks] An experimenter weighs a single object repeatedly and gets a set of masses (in mg) that are normally distributed. Below is a random sample of the masses. Find a 95% confidence interval for the standard deviation of the masses. Round your values to 3 decimal places.

1.189 1.303 1.317 1.196