Answer the questions below. You may answer in the space provided. You may use the back or a separate sheet of paper if you need more space. You are to work in groups of no more than four people. Make sure to enter the names of your groupmates below.

Group Members: _

- 1. A customer, wanting to check to see if the right amount of soda is in each bottle, measures the amount of soda in each of four bottles. The sample of the bottles has a sample mean of 12.05 ounces and a sample standard deviation of 0.085 ounces.
 - (a) (3 points) Construct a 95% confidence interval for this sample. Make sure to indicate the intervals for both the t scale and the \overline{x} scale.

(b) (3 points) The bottles of soda are supposed to have 12.1 ounces in them. Conduct a hypothesis test for $\alpha = 0.05$ level to determine whether there is enough evidence to suggest the soda company is underfilling the bottles. Make sure to indicate the hypotheses, the critical value for both scales and the test statistics for both scales, the p-value for this test, and your decision.

2. (3 points) You want to test to see if a coin is fair. You flip the coin 400 times and find that you get 205 heads. Is this enough statistical evidence to say the coin is unfair at the $\alpha = 0.05$ level? Make sure to indicate the hypotheses, the critical values for both scales and the test statistics for both scales, the p-value for this test, and your decision.

3. (1 point) When and where is the final exam for this class?