Class Time:

Names:

Hypothesis Testing of Single Mean and Single Proportion: Single Mean and Single Proportion Lab I

Student Learning Outcomes:

- The student will select the appropriate distributions to use in each case.
- The student will conduct hypothesis tests and interpret the results.

Television Survey

In a recent survey, it was stated that Americans watch television on average four hours per day. Assume that $\sigma = 2$. Using your class as the sample, conduct a hypothesis test to determine if the average for students at your school is lower.

1. H_o: _____

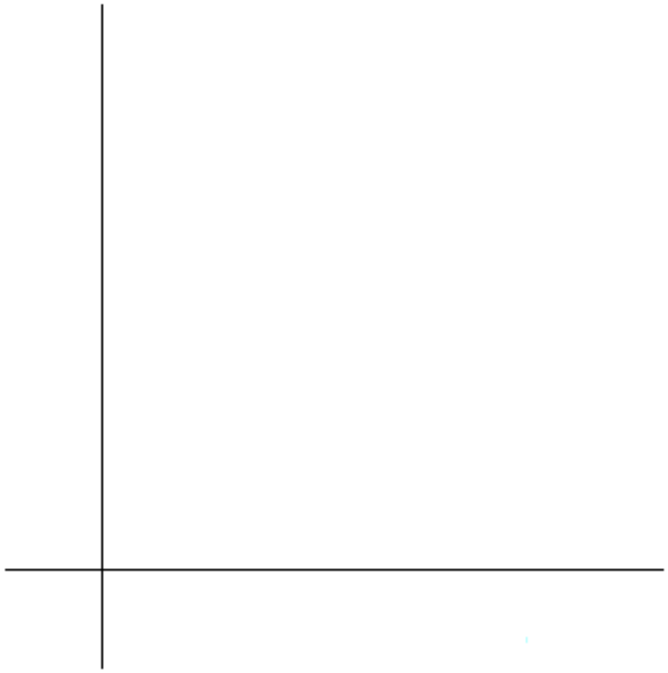
2. H_a: _____

3. In words, define the random variable.

4. The distribution to use for the test is

5. Determine the test statistic using your data.

6. Draw a graph and label it appropriately. Shade the actual level of significance (p-value).



   a. Graph:
   b. Determine the p-value.

7. Do you reject or not reject the null hypothesis?

8. Write a clear conclusion using a complete sentence.

Language Survey

According to the 2000 Census, about 39.5% of Californians and 17.9% of all Americans speak a language other than English at home. Using your class as the sample, conduct a hypothesis test to determine if the percent of students at your school that speak a language other than English at home is different from 39.5%. (Use 17.9% if this you are surveying outside of California.)

1. H_o: _____

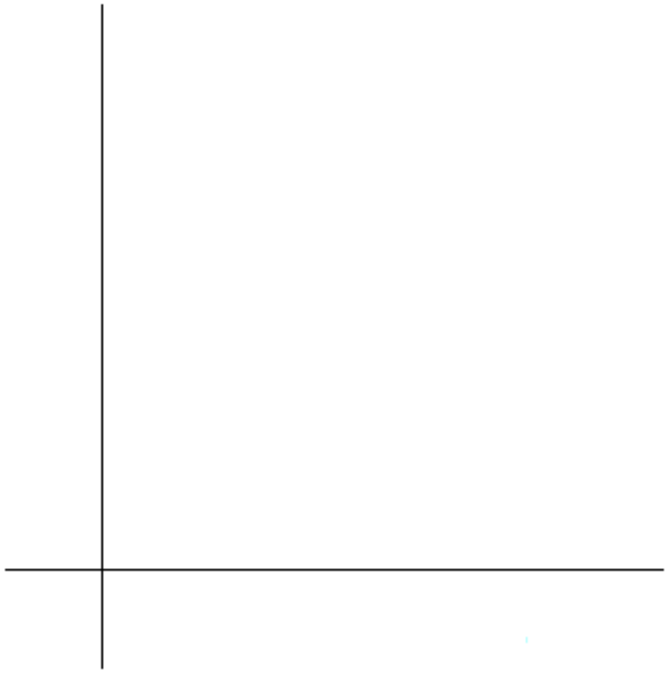
2. H_a: _____

3. In words, define the random variable.

4. The distribution to use for the test is

5. Determine the test statistic using your data.

6. Draw a graph and label it appropriately. Shade the actual level of significance.



   a. Graph:
   b. Determine the p-value.

7. Do you reject or not reject the null hypothesis?

8. Write a clear conclusion using a complete sentence.

Jeans Survey

Suppose that young adults own an average of 3 pairs of jeans. Survey 8 people from your class to determine if the average is higher than 3.

1. H_o: _____

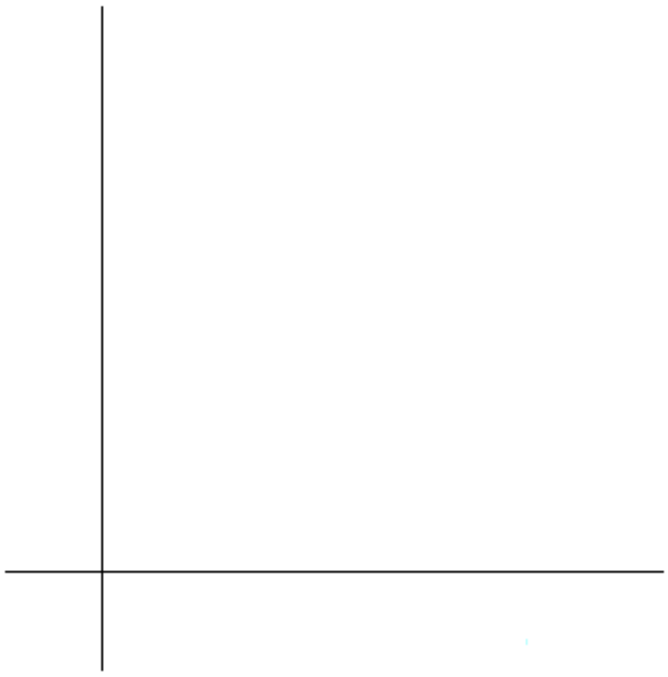
2. H_a: _____

3. In words, define the random variable.

4. The distribution to use for the test is

5. Determine the test statistic using your data.

6. Draw a graph and label it appropriately. Shade the actual level of significance.



   a. Graph:
   b. Determine the p-value.

7. Do you reject or not reject the null hypothesis?

8. Write a clear conclusion using a complete sentence.