Hypothesis Testing of Single Mean and Single Proportion: Lab (Edited: Teegarden) 02*

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Based on *Hypothesis Testing of Single Mean and Single Proportion: Lab (Edited: Teegarden) 02*† by

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Abstract

update of figure 1 to be a normal curve

Class Time:
Name:

1 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.

2 Television Survey

The data in the Testbook.mtw file lists the cost of 62 books required for classes in Summer 2008 at Mesa College. Students believe that they are spending on average $100 for their textbooks. Using the data for new books as the sample, conduct a hypothesis test to determine if the average cost of new textbooks at Mesa is lower.

1. H_o:
2. H_a:

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3. In words, define the random variable. _____ =
4. The distribution to use for the test is:
5. Calculate the test statistic using your data.
6. Draw a graph and label it appropriately.

   a. Graph:

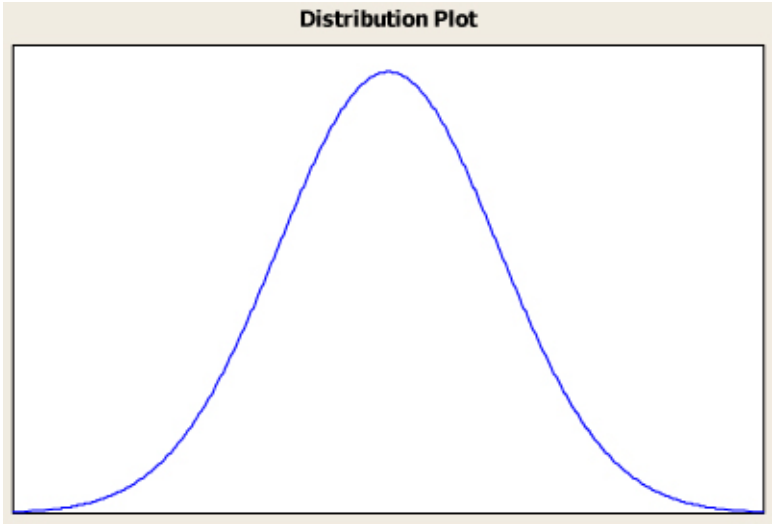

Figure 1

   b. Calculate the p-value:

7. Do you or do you not reject the null hypothesis? Why?
8. Write a clear conclusion using a complete sentence.

3 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 the students at your school that speak a language other than English at home is different from 39.5%.

1. H_o:
2. H_a:
3. In words, define the random variable. _____ =
4. The distribution to use for the test is:
5. Calculate the test statistic using your data.
6. Draw a graph and label it appropriately. Shade the actual level of significance.

   a. Graph:

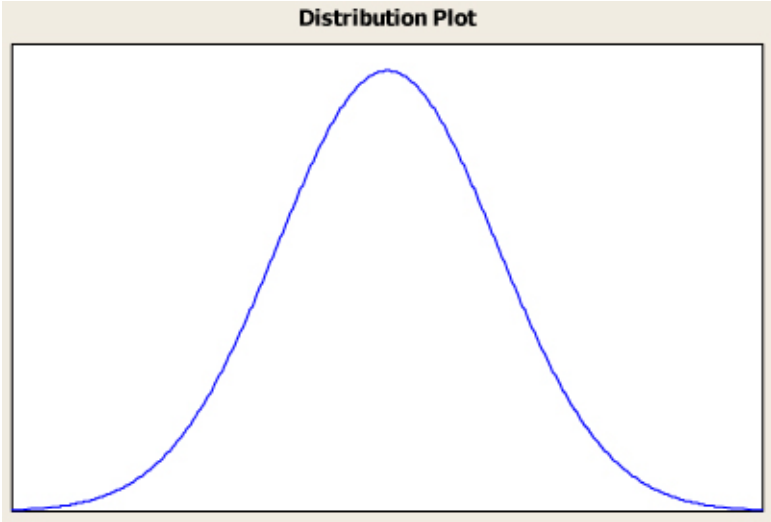

Figure 2

b. Calculate the p-value:

7. Do you or do you not reject the null hypothesis? Why?
8. Write a clear conclusion using a complete sentence.