Chapter 7 Worksheet

Terms and Concepts to Know

- The _____ represents the current belief or prevailing viewpoint of a population. (I.e. what doesn't change.)
- The _____ represents the challenging theory against the current belief. (I.e. what is changing.)
- A hypothesis is _____ when parameter < value.
- A hypothesis is _____ when parameter > value.
- A hypothesis is _____ when parameter ≠ value.
- The _____ is the values that indicate we reject the _____.
- The _____ is the values that indicate we would not reject the _____.
- The sample standardized score used in the process of hypothesis testing is known as the _____.
- The area based upon the _____ is known as the _____.
    - Using this value, we determine whether to:
        -
        -
    - Note: NEVER _____!!
- Interpretations to Remember based off of Decision:
    - Rejecting Null Hypothesis

- Failing to Reject Null Hypothesis

Population Mean

- We work with an _____.

- The confidence level or significance level will be given to you.
  - If one is not given to you, ALWAYS assume that the confidence level is 95% and that the significance level is 5%.
- Formulas to Know:
  - Test Statistic

  - p-value

1. Suzie read that on average a college student will visit their hometown 4 times every semester outside of predetermined university-wide breaks. Suzie decides to test if the average for her group of friends is different from what she read. The data she collected is below.

   Visits: 3, 6, 2, 1, 0, 4, 3, 8, 3, 1, 1, 0

   a. State the Hypotheses

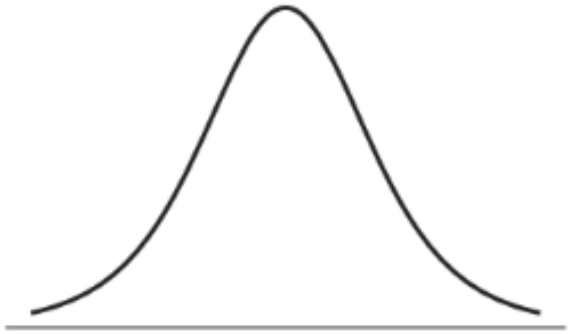
   b. Direction of the Test

   c. Find the Test Statistic

d. Find the p-value.

e. What is the decision and why?

f. Sketch that decision and Interpret it.



2. Carter was saw on google that wildlife biologists make an average $66,350 per year. After gathering data from 25 wildlife biologists, he determines that the mean is $63,527 with a standard deviation of $7028. At a 10% significance level, determine if wildlife biologists make less than google claims.
    a. State the Hypotheses

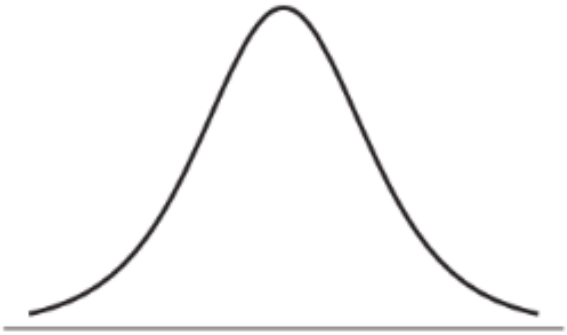
    b. Direction of the Test

    c. Find the Test Statistic

    d. Find the p-value.

e. What is the decision and why?

f. Sketch that decision and Interpret it.



<u>Population Proportions</u>

- Formulas to Know:
  - Test Statistic

  - P-value

1. A professor claims that for every class, 10% of the students will skip. Johnny believes that the proportion of students skipping is more than 10%. Test his theory when there are 52 students in every class, 5 students skip every class.
   a. State the Hypotheses

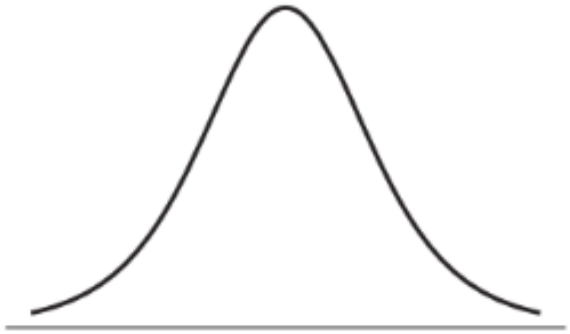
   b. Direction of the Test

   c. Find the Test Statistic

d. Find the p-value.

e. What is the decision and why?

f. Sketch that decision and Interpret it.



2. A survey asking 2000 random people reveals that 640 prefer ice cream cake over regular sheet cakes. At a 1% significant level, determine whether less than 45% prefer ice cream cake.
    a. State the Hypotheses

    b. Direction of the Test

    c. Find the Test Statistic

    d. Find the p-value.

e. What is the decision and why?

f. Sketch that decision and Interpret it.