

Lab Assignment 10.1, 10.3

Name: _____ Date: _____ Row: _____

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1. The U.S. Center for Disease Control reports that the mean life expectancy was 47.6 years for whites born in 1900 and 33.0 years for nonwhites. Suppose that you randomly survey death records for people born in 1900 in a certain county. Of the 124 whites, the mean life span was 45.3 years with a standard deviation of 12.7 years. Of the 82 nonwhites, the mean life span was 34.1 years with a standard deviation of 15.6 years. Conduct a hypothesis test to see if the mean life spans in the county were the same for whites and nonwhites. Test their hypothesis at a 1% significance level.

1. Null and Alternative Hypothesis
 2. Calculator Work
 3. Test Statistic and P-Value
 4. Conclusion about the null hypothesis
 5. Final conclusion that addresses the original claim
 6. Test the above claim by constructing an appropriate confidence interval.
2. At Rachel's 11th birthday party, eight girls were timed to see how long (in seconds) they could hold their breath in a relaxed position. After a two-minute rest, they timed themselves while jumping. The girls thought that the mean difference between their jumping and relaxed times would be zero. Test their hypothesis at a 1% significance level.

Relaxed time (seconds): 26; 47; 30; 22; 23; 45; 37; 29

Jumping time (seconds): 21; 40; 28; 21; 25; 43; 35; 32

1. Null and Alternative Hypothesis
 2. Calculator Work
 3. Test Statistic and P-Value
 4. Conclusion about the null hypothesis
 5. Final conclusion that addresses the original claim
 6. Test the above claim by constructing an appropriate confidence interval.
3. We are interested in whether the proportions of female suicide victims for ages 15 to 24 are the same for the whites and the blacks races in the United States. We randomly pick one year, 1992, to compare the races. The number of suicides estimated in the United States in 1992 for white females is 4,930. Five hundred eighty were aged 15 to 24. The estimate for black females is 330. Forty were aged 15 to 24. Test their hypothesis at a 5% significance level.

1. Null and Alternative Hypothesis
 2. Calculator Work
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4. While her husband spent 2.5 hours picking out new speakers, a statistician decided to determine whether the percent of men who enjoy shopping for electronic equipment is higher than the percent of women who enjoy shopping for electronic equipment. The population was Saturday afternoon shoppers. Out of 67 men, 24 said they enjoyed the activity. Eight of the 24 women surveyed claimed to enjoy the activity. Test their hypothesis at a 5% significance level.

1. Null and Alternative Hypothesis
2. Calculator Work

3. Test Statistic and P-Value
4. Conclusion about the null hypothesis
5. Final conclusion that addresses the original claim
6. Test the above claim by constructing an appropriate confidence interval.

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