

Lab Assignment 10.4, 12.2, 12.4

Name: _____ Date: _____ Row: _____

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1. A new prep class was designed to improve SAT test scores. Five students were selected at random. Their scores on two practice exams were recorded, one before the class and one after. The data recorded in the table below. Are the scores, on average, higher after the class? Test at a 5% level.

SAT Score	Student 1	Student 2	Student 3	Student 4
Score before class	1840	1960	1920	2150
Score after class	1920	2160	2200	2100

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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2. Five ball players think they can throw the same distance with their dominant hand (throwing) and off-hand (catching hand). The data were collected and recorded in the table below. Conduct a hypothesis test to determine whether the mean difference in distances between the dominant and off-hand is significant. Test at the 5% level.

	Player 1	Player 2	Player 3	Player 4	Player 5
Dominant Hand	120	111	135	140	125
Off-Hand	105	109	98	111	99

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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3. The following table shows the poverty rates and cell phone usage in the United States. Use a 0.05 significance level to test the claim that there is a linear correlation between the poverty rate and the cellular usage per capita.

Year	Poverty Rate	Cellular Usage per Capita
2003	12.7	54.67
2005	12.06	74.19
2007	12	84.86
2009	12	90.82

1. Null and Alternative Hypothesis
2. Calculator Work
3. Test Statistic, P-Value and Linear correlation coefficient r
4. Conclusion about the null hypothesis

Method 1:

Method 2:

5. Final conclusion that addresses the original claim

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4. The table below shows the life expectancy for an individual born in the United States in certain years. Use a 0.05 significance level to test the claim that there is a linear correlation between the life expectancy for an individual born in the United States in certain years.

Year of Birth	Life Expectancy
1930	59.7
1940	62.9
1950	70.2
1965	69.7
1973	71.4
1982	74.5
1987	75
1992	75.7
2010	78.7

) Null and Alternative Hypothesis

2. Calculator Work
3. Test Statistic, P-Value and Linear correlation coefficient r
4. Conclusion about the null hypothesis

Method 1:

Method 2:

5. Final conclusion that addresses the original claim

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