

# [Determine the type of inference essay](https://assignbuster.com/determine-the-type-of-inference-essay/)

For each number, determine the type of inference, state the assumptions, and answer the questions. A random survey of 57 students was conducted to compare Juniors and seniors employment status. Seven out of 18 Juniors held a Job while 16 out of 39 seniors held a Job. Find and interpret a 98% confidence interval. Is there evidence at the 1% significance level that more seniors have a Job than Juniors? If so, what might explain this? Cocaine addicts need cocaine to feel any pleasure, so perhaps giving them 2. An antidepressant drug will help.

A three-year study with 72 chronic cocaine users compared an antidepressant drug called despairing against lithium (a standard drug to treat cocaine addiction), and of course a placebo as well. The subjects were randomly assigned to receive each treatment. Here are the results: I I Cocaine Relapse? I Group I Treatment I Yes I No I 1 | Despairing I 10114 1 2 | Lithium 118 16 1 3 | Placebo 120 14 1 (a) Make a graph to compare the rates of cocaine relapse for the three treatments. Describe what you see. (b) Is there a relationship between Treatment and Cocaine Relapse?

A random study of 25 people on whether fidgeting and other “ non-exercise 3. Activity’ (NEE) can explain why some people don’t gain weight when they overeat was done. Output for this study is shown below. Regression Analysis: Fat gain versus NEE change I Predictor I Coffee I Scope IT IP I constant | 3. 5051 | 0. 3036 | 11. 54 | 0. 0003 | NEE change | -0. 065 | 0. 014 | s -0. 75 | R-sq I (a) Explain what s = 0. 75 meaner. (b) Find and interpret a 90% confidence interval for the slope of the regression line. (c) Does a linear relationship exist between fidgeting and NEE change?

A statistics student wants to compare the mean times needed to access 4. Flight information for two major airlines. Thirty randomly selected students accessed one airline’s “ On-Time” Web site, and the time required to locate the flight information using that Web site had a mean of 2. 5 minutes and a standard deviation of 0. 8 minutes. Thirty different randomly selected students accessed the other airlines “ Real-Time” Web site, and the time required to locate the flight information using the Web site had a mean of 2. 1 minutes and a standard deviation of 1. Find and interpret a 95% confidence interval. Minutes. (c) Is there evidence that “ On-Time” web site takes significantly longer than “ Real-Time” web site in locating the flight information? 5. Charles Darwin, author of On the Origin of Species (1859), designed an experiment to compare the effects of cross-fertilization and self-fertilization on the size of plants. He planted pairs of very similar seedling plants, one self-fertilized and one cross- fertilized, in each of the 15 plots at the same time. After a period of time, Darwin measured the heights (in inches) of all the plants.