

Instruction: Complete each of the steps below using Minitab. You can find the data in the file **143data6.xlsx**. You will need to copy and paste the data into Minitab. Complete the tasks below. Copy and paste any output (graphs, tables, summary statistics, etc.) to a Word document where you should include the requested analysis next to each item. Save the Minitab work as a project. Submit the Word document and the Minitab file to Blackboard.

1. Conduct a hypothesis test (ANOVA) for the data on textbook prices from Sheet 1 to determine if the Subject (not the Area) influences the price of the textbook.
 - a. Create a comparative boxplot of the data. What conclusion does the boxplot suggest?
 - b. State the null and alternative hypotheses for both the tests we are conducting.
 - c. Calculate the test statistic in Minitab. Convert the test statistic to a P-value. What is the conclusion of the test in statistical language?
 - d. State your conclusion for each test in context, in a way that a non-statistically trained person can understand.
 - e. Do the results of your hypothesis test agree with the boxplot? Why or why not?
 - f. Conduct a t-test for the two subjects that appear to be the most different in terms of textbook prices. Does your two-sample t-test result support the results of the ANOVA test?

2. Conduct a hypothesis test of independence (χ^2) on the data in Sheet 2. Compare the variables Politics and Happiness to determine if someone's political views influence their happiness level (or vice versa).
 - a. Create a clustered bar graph of the data and make an initial supposition. Does one's political views appear to influence their happiness?
 - b. State the null and alternative hypotheses for both the tests we are conducting.
 - c. Be sure to include the two-way table of observations in your calculation. Calculate the test statistic in Minitab. Convert the test statistic to a P-value. What is the conclusion of the test in statistical language?
 - d. State your conclusion for each test in context, in a way that a non-statistically trained person can understand.
 - e. Do the results of your hypothesis test agree with the bar graph? Why or why not?