BUS 310, Quiz #2, Summer 2019   Name _____ KEY _____

Instructions: This quiz is to be completed entirely in class. You may not use cell phones, and you may only access internet resources you are specifically directed to use. Go to Blackboard and open the data file posted under Quiz #2. Use it to answer the following questions. Place your answers to the bolded questions directly on this page. (If you do not answer questions on this page, they will not be graded.)

1. Use the data in the **310quiz2data.xlsx** file to conduct a one-way ANOVA test. The data provides quarterly sales under three different sales compensation schemes. Do the three schemes produce the same or different sales results? **State the hypotheses, and the test-statistic and P-value. Interpret the results clearly in a sentence in context.**

   Ho: all means the same
   Ha: at least one mean is different
   F-stat: 2.509
   P-value: 0.0872 > .05
   fail to reject null

   the compensation schemes do not substantially affect sales.

2. Use the data in the **310quiz2data.xlsx** file to find the proportion of students in the sample who are married. **Conduct a hypothesis test** to determine if the proportion of students who are married is consistent with that of a previous study that suggested that 30% of students are married. **Be sure to appropriately label your null and alternative hypotheses, and clearly state your conclusion. Describe what a Type I error would mean in context.**

   Ho: p = 30%
   Ha: p ≠ 30%
   Z test: -0.07
   P-value: 0.9416 > .05
   fail to reject null

   This data is consistent w/ previous results.

3. Use the data in the **310quiz2data.xlsx** file to create a scatterplot of stock price vs. return average equity and vs. annual dividend price. Find an appropriate (possibly multiple) regression equation for the data, along with the R^2 value. **State the final equation and the R^2 value. Interpret the R^2 value in context. For each separate variable, state whether the relationship to stock price is strong, moderate or weak.**

   $$Y = -9.95 + 0.48X_1 + 11.19X_2 \qquad R^2 = 0.9284$$
   $$ RAE ADR$$

   Approximately 93% of the variability in stock price can be explained by the relationship to return average equity and annual dividend rate.
   RAE is a weak correlation (0.178) and ADR is very strong (0.945)
   r=   r=

Submit your completed Excel file to Blackboard, and submit your paper quiz to your instructor in class.