Stat 204

Quiz 5   4/19/18   **Name:** _____

Read the introduction to Exploration 9.2 on page 494, then answer the following related questions. You will use the **Diets** data from the book's website.

1. What is the research question? What are the observational units?

2. Identify the explanatory and response variables and their types.

3. State the relevant null and alternative hypotheses using correct notation.

4. Examine the boxplots for the different groups before doing anything else. What kind of p-values do you expect, and what conclusion do you anticipate?

5. There are two observed statistics: MAD and F. What are their values?

6. Using the MAD statistic, conduct a simulation and compute the relevant p-value.

7. Using the F statistic, conduct a simulation and compute the relevant p-value.

8. What is the theoretical p-value based on the F statistic?

9. These three p-values should be consistent. What do you conclude from them?

10. For a follow-up analysis, compute confidence intervals for pairwise differences. Which conditions differ significantly?