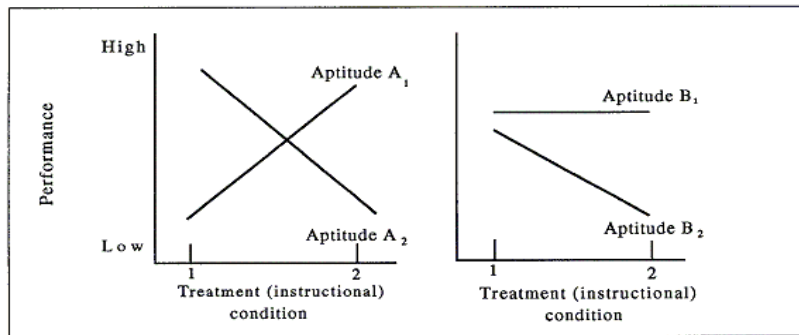


Name: _____
 MyID: _____

Assignment 7 Part I

1. Which (if any) of these two picture represent an interaction between Aptitude and Performance? Why or Why not?



2. Is there an Interaction between the Number of hours you Study and the Grade you receive in Class?

	Hours of Study=6	Hours of Study=10
Grade A	10	15
Grade B	5	10

3. Is there an Interaction between the Number of hours you Study and the Grade you receive in Class?

	Hours of Study=6	Hours of Study=10
Grade A	5	15
Grade B	5	10

4. The following question is question 11.3 from the textbook (Kepel & Wickens):

To conserve space, journals rarely publish analysis-of-variance summary tables. The most we can expect to find is a table of means and the values of F , sometimes with MS_{error} . At times, however, we wish the researcher had examined certain comparisons of particular interest to us. We can perform these analyses even without a detailed summary of the analysis by reconstructing it. Suppose we had been given the following table of means based on $n=4$ subjects per cell:

	b_1	b_2	b_3
a_1	11	12	10
a_2	3	10	14

The article reports only that the $A \times B$ interaction is significant, with $F=3.93$, $p<0.05$. Reconstruct the entire summary table, including the sums of squares, the degrees of freedom, and the F 's.

Part II: SPSS

5. Download the factorial homework dataset from ELC. Factor A = shock intensity levels and Factor B = task difficulty (1 = easy, 2= medium, 3=hard). The goal of the experiment is for the animals to learn to avoid shock by solving the task within a 10-second period. The response measure is the number of learning trials needed to reach avoidance of the shock on three consecutive trials.

- 1) Write your null hypothesis in symbols.
- 2) Conduct an analysis of variance. Report:
 - a. Main Effect Test for Factor A (F value, degrees of freedom, and p-value)
 - b. Main Effect Test for Factor B (F value, degrees of freedom, and p-value)
 - c. Interaction Test for AxB (F value, degrees of freedom, and p-value)
- 3) Plot the interaction using Shock _Intensity as the horizontal axis and Task_Difficulty as the separate lines.
- 4) What is your conclusion? Back your conclusion with the appropriate data.