

Answer Keys At Bottom of Test

NAME: Lab TA:

CODE NAME:

YOU MUST RETURN YOUR COPY OF THIS EXAM WITH YOUR NAME AND CODE NAME ON IT.

1. Suppose you have a two-factor study investigating the effects of Leadership Style (V1) and Task Type (IV2) on successful task completion (DV). There were two levels of Leadership Style (Consensus Builder and Authoritarian). There were two levels of Task Type (Creative and Rigid Steps). A 2-factor ANOVA indicated that Leadership Style was significant, Task Type was significant, and the Leadership by Task Type was also significant. A partial table of means is given below (higher scores indicate better task completion):

		Leadership Style		row means
		Consensus	Authoritarian	
Task	Creative	55	21	Grand Mean =
Type	Rigid Steps	69	72	
column means				

A) (10) Fill in the table with row means, column means, and the grand mean.

B) (10) On three separate graphs, graph the cell means, the row means, and the column means.

*For the next three questions, base your answers on the table and or the graphs you have just completed. (Do **not** refer to the significance test results mentioned above.)*

C) (10) Verbally tell why there is or is not an interaction between the two IVs. You must conceptually explain the presence or lack of the interaction. Simply saying that there are parallel or nonparallel lines on the graph is NOT enough.

D) (10) Verbally (and conceptually) tell why there is or is not a main effect Memory Strategy.

E) **(10)** Verbally (and conceptually) tell why there is or is not a main effect of Study Time.

(More....)

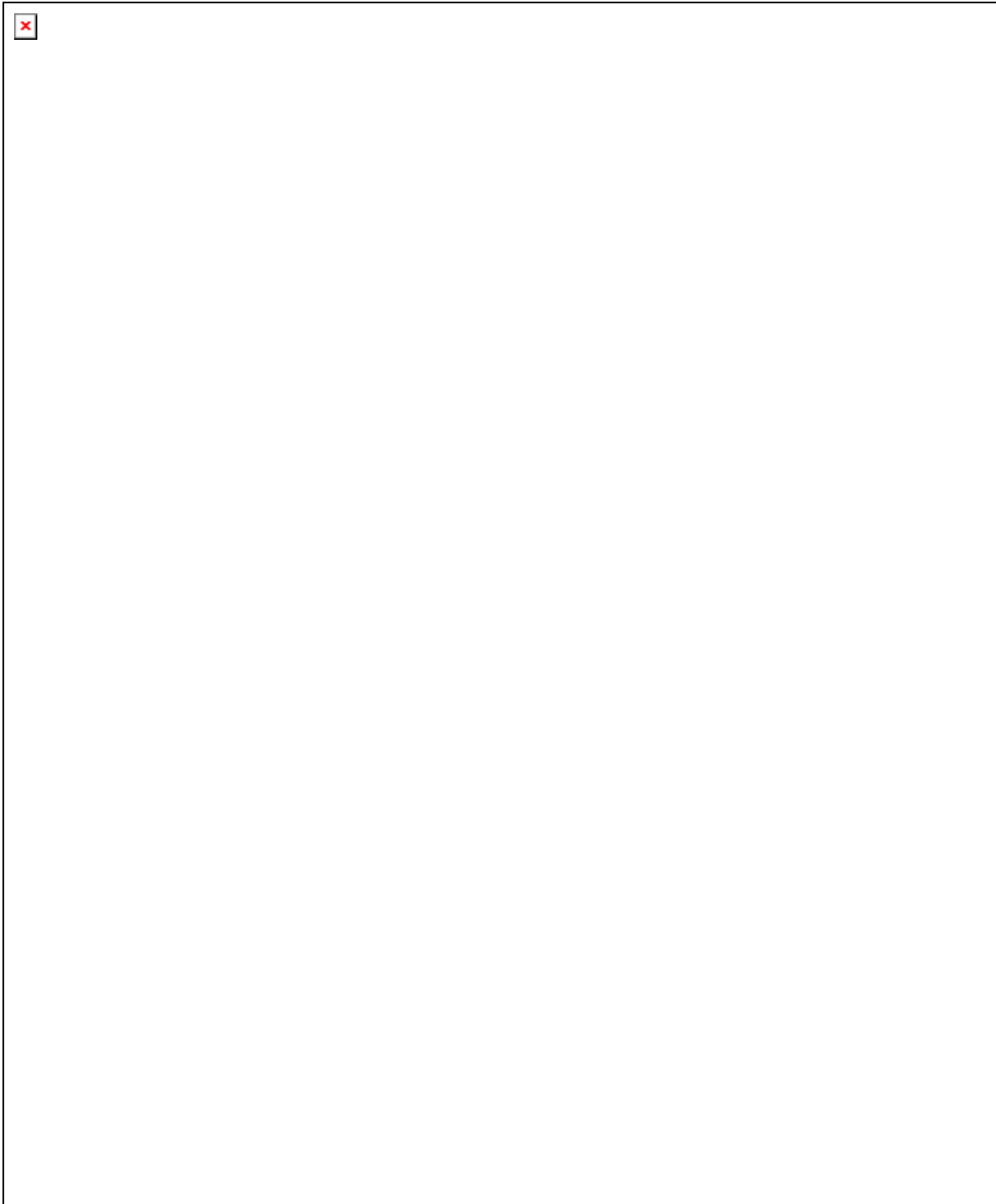
2 A scientist thinks that urban pollution is related to respiratory disease during flu season. He takes a sample of 120 people and determines if they live in an urban area or rural area and whether they got at least one respiratory problem during the last flu season. The frequencies of the flu are shown below.

	Rural	Urban
No Resp Prob	30	30
At least one Resp Prob	10	50

- ✗ **(4)** What is the scientific hypothesis?
- ✗ **(4)** Tell why the data pattern does or does not fit the scientific hypothesis.
- ✗ **(4)** Choose and name a test statistic.
- ✗ **(4)** State the null and alternative statistical hypotheses.
- ✗ **(4)** Calculate your *df*.
- ✗ **(5)** Look up the critical value of your test statistic (you choose the significance level) and put the critical value on a number line with appropriate rejection region(s).
- ✗ **(15)** Calculate the test statistic.
- ✗ **(5)** Do you reject or do you not reject the null hypothesis?
- ✗ **(5)** What is your conclusion regarding the PCH of Chance and what is the probability that you are wrong in making that conclusion?

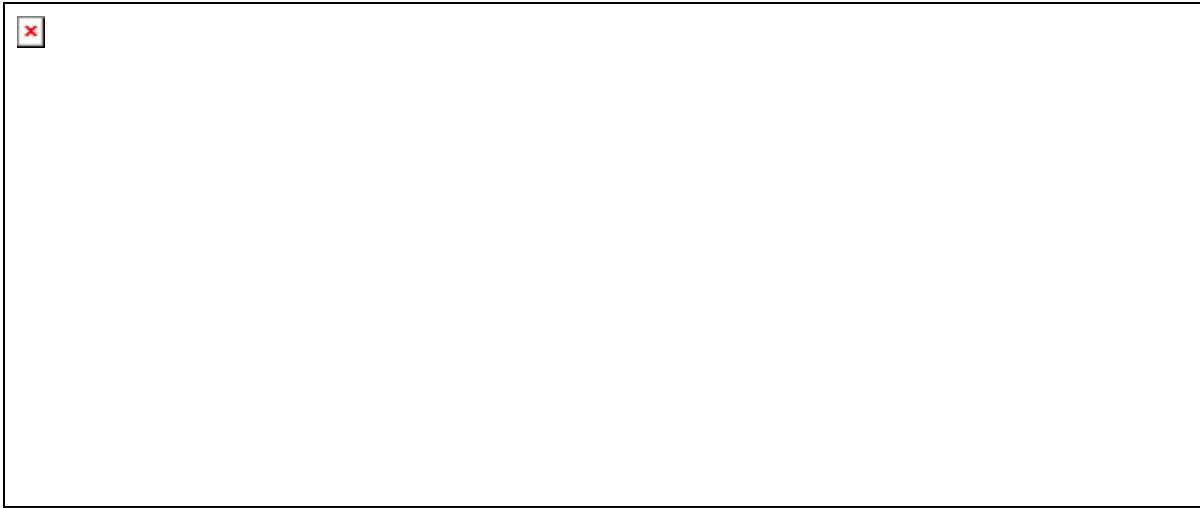
Answer Keys

TA: Mike









TA: Melissa



