LASSI
Learning And Study Skills Inventory

Our group number is _____.

Each group will be assigned one section of students to examine and describe. Our group has been assigned (check one)

    G   Math 113-01 (class 1)
    G   Math 113-02 (class 2)
    G   Math 116-03 (class 3)
    G   Math 121-01 (class 4)

The members of our group are

    1.   _____

    2.   _____

    3.   _____

    4.   _____

Be sure that you have logged into the computer as "math" with a password of "richland". When you do this, you may access the data files under drive R: rather than using "\\acad1\stats"
Math 113-01 can access the files under the "r:\01\lassi\" directory.
Math 113-02 can access the files under the "r:\02\lassi\" directory.

Use MINITAB to perform the statistical analysis on the LASSI data.

To import your data, go to File / Open Worksheet and change the file type to Excel. Browse to the directory specified above for your section of Math 113. Open the file "lassi#" where # is the class number (1-4) for the section you're describing. Save the file as "group#" where # is your group number. You only need to do this once. From then on, always open the "group#" file instead.

Each group should collectively turn in one project. There are no individual parts to this project.

Complete each of the following tasks: (35 points)

1. Give the descriptive statistics for all 10 tests. Click the right mouse button on the results and append the section to the report.

2. Transfer the 1st quartile, median, and 3rd quartile values onto the "LASSI Scores" sheet and then connect scores so that there are three line plots. Completely label the chart. See the example graph the instructor has prepared.

3. Determine whether the scores for each of the tests are normally distributed. Run a normality test from the basic statistics screen (you'll need to do this separately for each of the ten tests) and record the p-value in the chart below. You can close each graph as soon as you record the p-value.

    The assumption is that the data comes from a normally distributed population. Based on each p-value, determine whether the results are unusual (yes or no) and whether the sample data comes from a normal population (yes or no).

	ATT	MOT	TMT	ANX	CON	INP	SMI	STA	SFT	TST
p-value										
unusual										
normal										

4. Look at the results of question 3. Generate two separate normal probability plots (from the graph menu) for the tests that have the highest and smallest p-values. In each case, go into options and give it a title of either "Least Likely to be Normally Distributed" or "Most Likely to be Normally Distributed" (you have to decide which title goes with which p-value). Click the right button on each graph and append the graph to the report. You can close the graph after appending it to the report.

5. Are the scores on the anxiety (anx) and test strategies (tst) tests related to each other?
    a. Go into Regression / Fitted Line Plot. Use TST for the response variable and ANX for the predictor variable. Generate the graph and then append the graph to the report.
        Does the line appear to fit the data well? _____

b. Go into Basic Statistics / Correlation and find the correlation between the ANX and TST variables (order doesn't matter). Record the correlation coefficient and the p-value. The assumption is that the variables are not related to each other. Decide whether your results are unusual (yes / no) for that assumption and then if they are related or not (yes / no)

correlation	p-value	unusual	related

6. Which variables are most highly correlated to other variables? Go to Basic Statistics / Correlation. Add all ten tests to the variables box and generate the matrix of correlation coefficients. You will get a lower triangular matrix where the intersection of the row and column variables represents their correlation coefficient (top number) and p-value (bottom number). Append this section to the report.

The closer the correlation coefficient is to 1 or -1, the more highly correlated the two variables are. The closer the correlation coefficient is to 0, the less correlated they are. The sign of the correlation coefficient will determine if the variables are positively correlated (one gets higher as the other gets higher) or negatively correlated (one gets higher when the other gets lower).

Write the three pairs of most highly correlated variables here with their correlation coefficient and an explanation of why they might be correlated.

Variables	Correlation Coefficient	Explanation

7. Compare the median for each test with the medians from the other classes (take your chart from #2 and talk to other groups in the class). For each of the ten tests, write the class (Math 113-01, Math 121, etc) that had the highest and lowest median scores along with the median score.

class / score	ATT	MOT	TMT	ANX	CON	INP	SMI	STA	SFT	TST
highest										
lowest										

8. Type your names in the report editor and then and print the report out. Staple the printout and the graph from #2 to this paper. Give all of your work to the instructor. Remember, this is a group project and there is only one report per group, not a report for each individual in the group.

Evaluation (5 points)

Each student should do the following. This portion is not a group effort, it is an individual activity. It must be typed and printed, no handwritten papers.

! Put your name and section at the top of the paper
! For each person in your group (including yourself), give their name and assign them a score between 0 (lowest) and 5 (highest) for their effort in making this project a success. Then write a short paragraph about what each person contributed and why they deserve the grade you're giving them.

Example:

James Jones – 4
James was consistently late to the meetings because he was reading his email and had no clue about anything statistical. He did, however, know how to work Minitab and did all the work on it. He didn't explain what he was doing, though, saying "Just leave me alone and let me do it." He also tried to tell us that a small p-value meant the null hypothesis is true, which is just backwards. He didn't work well with the group, but he did get the work done.

LASSI Scores

	ATT	MOT	TMT	ANX	CON	INP	SMI	STA	SFT	TST	
99	39	39	39	39	38	39	25	38	39	39	99
95	38	38	33	36	34	36	23	33	33	37	95
90	37	37	32	34	32	34	22	31	32	35	90
85	36	36	30	33	31	32	21	30	30	34	85
80	35	35	29	32	30	31	--	29	29	33	80
75	--	--	28	31	29	30	20	28	--	--	75
70	34	34	27	30	--	29	--	27	28	32	70
65	--	33	26	29	28	--	19	26	27	--	65
60	33	32	25	28	27	28	--	--	--	31	60
55	--	--	24	27	26	27	--	25	26	--	55
50	32	31	23	26	25	--	18	--	25	30	50
45	--	30	22	25	24	26	--	24	--	29	45
40	31	--	21	24	23	25	17	23	24	--	40
35	30	29	20	23	22	24	--	--	23	28	35
30	29	28	19	22	21	23	16	22	22	27	30
25	--	27	18	21	20	22	--	21	21	26	25
20	28	26	17	20	19	21	15	20	20	25	20
15	27	25	15	19	18	20	14	19	19	24	15
10	25	23	14	17	16	19	13	18	18	22	10
05	23	20	12	15	13	17	11	16	16	19	05
01	19	17	09	12	10	14	08	13	12	14	01

ATT	MOT	TMT	ANX	CON	INP	SMI	STA	SFT	TST