

Math 1414
College Algebra
Lab Exercise # 6
Dr. Word

Name: _____

Date: _____

Section: _____

Semester: _____

Grade: _____

Attach computer printouts to this sheet and submit your assignment to your instructor or the lab supervisor by Friday of the week assigned.

Students in a psychology class were given a final examination. As part of an experiment to see how much of the course content they remembered over time, they took equivalent forms of the exam at monthly intervals thereafter. The average score for the original exam was 88, and after months 1, 2, 3, 4, 5, 6, and 7 the average score on the equivalent exams were 78, 72, 67, 64, 61, 59, and 57, respectively. Label one list MONTH and another AVGSC and enter the given data. Do the following:

- 6a. Construct a scatter plot of the data for months 1 through 7 and determine the lnreg model that describes the data. Graph the model on the same graph with scatter plot and print.
- 6b. Construct a table using model from 6a. Start with month 8 and print a table that illustrates the predicted average scores for the exams for months 8 through 14.

In the years 1982, 1985, 1990, 1992, 1993, and 1994, U.S. consumers spent the following in millions of dollars in the respective years: 9,869; 12,611; 19,043; 21,244; 22,635; and 23,798. Answer or do the following:

- 6c. Label the lists YEAR and EXPEND and enter the data. Print the scatter plot of the data.
- 6d. Calculate and print a linear, logarithmic, and exponential model of the data. Use the r value of each model to determine the best model.
- 6e. Graph and print the best model on the scatter plot. Use the best model to predict that amount U.S. consumers will spend in millions of dollars in the year 2004. Print your results.

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*****If in doubt, Print it out!*****

6a) Enter the given data just like in Labs # 2 & 4. Set up a stat plot, adjust your window to fit the data, and graph the scatter plot. Imagine a line drawn through the points graphed. This will help you determine the regression equation. Use lnreg.

6b) To construct a table, press [2nd] [WINDOW] (TBLSET). The TblStart would be 8 the Δ Tbl is 1. Then press [2nd] [GRAPH] (TABLE) to view the entire table.

6c) To clear the list and start new. While in the Stats Editor, highlight the title of the column (list) and press [DEL]. Then enter the given data like before and rename the column as instructed.

6d) After plotting the scatter plot, set up the given models one by one. After setting up, graphing and printing each of the models, go to [VARS], 5: Statistics, move over to EQ, then 7: r. Press [ENTER]. This is the r value for that given model. Refer to your textbook to see which of the three models is best suited for your data.

6e) Graph the best model on the scatterplot. Increase the size of your window to go beyond 2004. Use the graph to predict the millions consumers will spend in 2004. You can do this by using the [TRACE] and scrolling to 2004 or by [2nd] [TRACE] (CALC), 1: value, [ENTER], and entering 2004.