

Regression Analysis on the TI-89 & TI-92

Note that **<dia>** stands for the *diamond* key

Step 1: Enter the data in a list

F4 - 4 - enter xy - Enter	Clear a data matrix (variable xy) for use
APPS - 6 - 3	Use the Data/Matrix editor to select a new variable
- - enter xy	Prepare data matrix xy for linear regression
Enter - Enter	
	<i>Enter x values in c1 and c2, pressing Enter after each entry and using the arrows to change column position</i>

Step 2: Graph the data

F2 - F1	Plot setup, then define conditions
> - 1	Select scatter plot
- > - 1	Select box mark for graph
- enter c1	x values are in c1
- enter c2	y values are in c2
Enter - Enter	Save the entries for Plot 1
<dia> - F1 (TI-89) or <dia> - W (TI-92)	Use the key to check Plot 1 and uncheck the rest
F2 - 9	Plot the data using the ZoomData function

Step 3: Perform the linear regression; the form will be $y(x) = ax + b$

2nd - ESC	Quit the current screen
APPS - 6 - 1	Return to the Data/Matrix editor
F5 - > - 5	Select linear regression (LinReg). Alternatively, you could select option 4 for ExpReg, option 6 for LnReg, or option 8 for PowerReg
- enter c1	x values are in c1
- enter c2	y values are in c2
- > -	Select $y_1(x)$ to calculate linear regression equation
Enter - Enter	Values for the linear regression are displayed, where a = slope, b = y-intercept, and corr = r, the correlation coefficient

Step 4: Graph the linear regression in y_1

<dia> - F1 (TI-89) or <dia> - W (TI-92)	Use the key to check Plot 1 and uncheck the rest
F2 - 9	Regression line is plotted with the data points in ZoomData mode

Step 5: Use the linear regression to make predictions

Home (TI-89) or <dia> - Q (TI-92)	
y1(1985) - Enter	Evaluate the regression equation in y_1 at 1985 (or any value you pick)

Step 6: When the regressions are completed, turn the scatter plots off

<dia> - F1 (TI-89) or <dia> - W (TI-92)	
F4 - Home	F4 unchecks Plot1