

Finding the Line of Best Fit Using the TI-89

Objective: To draw the scatter diagram for the given data, find the equation of the line of best fit and graph the line of best fit on the scatter diagram.

Data	x	3	5	7	9	11	13
	y	0	2	3	6	9	11

(Clear previously saved functions.)

Create the scatter diagram as explained earlier.

Apps

6: Data/Matrix Editor

3: New

Type: **Data**

Folder: Folder of your choice (**Math**)

Variable: **Data1**

Enter

Enter

Key in data : x values in c1, y values in c2

Set up plot

F2: Plot Setup (Select a plot number that is not in use)

F1: Define

Plot Type: **Scatter**

Mark: **Box** (or select your choice of marker)

x: **c1** Enter

y: **c2** Enter

Freq and Categories: **No**

Enter

Diamond Graph

Set viewing window if all the marks do not show.

F2: Zoom

9: ZoomData

To find the line of best fit:

Apps

6: Data/Matrix Editor

1: Current

F5 Calc

Calculation Type: **Arrow Right** then **5: LinReg** (that stands for linear regression)

x: **c1**

y: **c2**

Store RegEq to . . . : **Arrow right** then select **y1(x)** (or any other function number)

Enter

Freq and Categories? **No**

Enter

The calculator gives the equation form and the values for a (slope) and b (y-intercept). In this case $a = 1.128571$ and $b = -3.861905$. The corr value tells how closely the line fits the data. The closer the number is to 1, the closer the data fits the equation. The equation of the line is

$$y = 1.128571 x - 3.861905$$

To graph the line of best fit with the scatter diagram

Enter

Diamond Graph