Finding the Line of Best Fit Using the TI-92

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

> **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