Scatterplot and Linear Regression

using the TI-83/84

BEFORE YOU BEGIN:
- Clear out (or de-highlight) any equations in the Y= editor (Y_1, Y_2, Y_3, etc.)

STEP 1: Entering in the data into two lists (L_1 and L_2)
- Hit [STAT]
- Choose **1:Edit** by either hitting [1] or [ENTER] .
  If necessary, clear out any old data in the lists:
    Use [▲] to get cursor to cover L1 at top of list; press [CLEAR][ENTER]. Repeat process for L2.
- Type the data values for the independent (*x*) variable in column L1. Hit [ENTER] after each entry.
- When you finished entering data in L1, hit [▶] and then enter the data values for the dependent (*y*) variable in column L2.

STEP 2: Making the scatterplot
- Hit [2nd][Y=][STAT PLOT]
- Choose **1: Plot1** by either hitting [1] or [ENTER].
- Turn **On** the plot by pressing [ENTER].
    - o Next to **Type:**, you should have selected ⊾⋰ (scatterplot)
    - o For **Xlist:**, you should have L_1
    - o For **Ylist:**, you should have L_2
    - o For **Mark:**, you may choose any of the three options to represent the points on your scatterplot
- Hit [ZOOM] and choose **9: ZoomStat** by scrolling down to 9 and hitting [ENTER] or by simply hitting [9] to view the scatterplot.

    If the pattern of the data is appropriate for linear regression, continue with the following step.

STEP 3: Getting the regression equation (and storing it into the equation editor)
- Hit [STAT] then [▶] to CALC
- Choose **4:LinReg(ax+b)** (Either scroll down to 4 and then hit [ENTER], or simply hit [4])
- Hit [VARS] then [▶] to **Y-VARS**
- Choose **1:Function** by hitting [ENTER]
- Choose **1:Y1** by hitting [ENTER]
- Hit [ENTER]

The coefficients of your linear regression equation (*a* and *b*) will be displayed on your homescreen. The linear regression equation will be stored in the equation editor in Y1.

*Note: The directions in Step 3 refer to linear regression. If a different type of regression is more appropriate, replace 4:LinReg(ax+b) with the more appropriate regression type found in the [STAT] [▶] CALC menu.
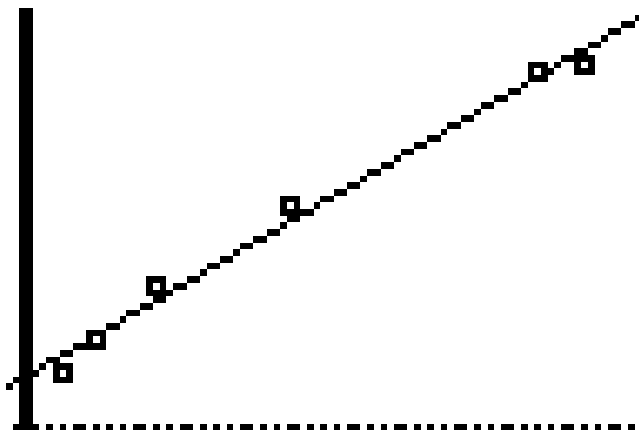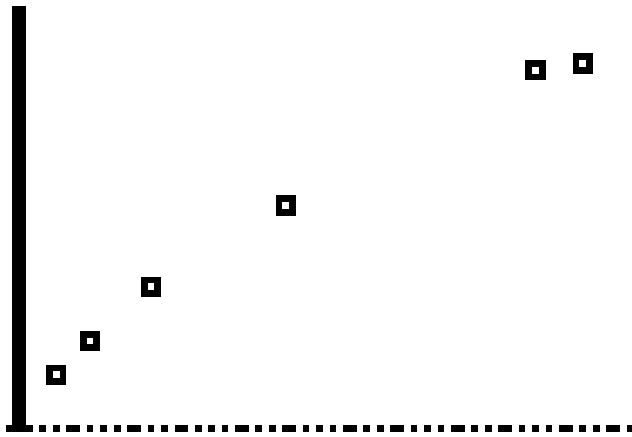
Try one out for yourself!

Goal: Create a scatterplot on the calculator, and then graph the regression line.

Data:

x	y
3	29
6	35
11	44
22	57
43	80
47	81

Answer: