

Creating a scatter plot and graphing a fitted line on the TI-83

by David Shellabarger 4/9/98 These instructions assume you can use the cursor (arrow) keys and number keys to move around in a TI-83 menu. Buttons are underlined: STAT. Comments are in *italics*. TI menu choices and numbers you enter are normal helvetica.

Clear lists L1 and L2

1. STAT EDIT 4 (*Carefull not 1: Edit...*) ClrList 2nd L1 , 2nd L2 ENTER

Note *The comma is its own key --about where Salt Lake City would be on a US map. DONE shows on the screen. You have cleared lists L1 and L2.*

Enter data

2. STAT 1:Edit ENTER *Enables you to enter data in the lists. Use the cursor keys to get around. Enter the year and price data-- year in L1 and price in L2.*

Year	Van advert. price
85	4450
87	2400
88	8400
90	7200
91	12988
92	13995
93	16900
94	19000
95	22500
96	18999

Get the equation of the fitted line

3. STAT CALC 4:LinReg ENTER ENTER

The exponential regression equation shows on the screen, giving the coefficients of the fitted line; r shows the "goodness of fit." The display will depend on your data. For the data above it is

$$y = ax + b$$

$$a = 1782.77843 \approx 1783$$

$$b = -149727.9612 \approx -149728$$

$$r^2 = .8895038942$$

$$r = .943135141$$

The equation i of the line fitting the points is $y = 1783x - 149728$ $r = .94$ is the "goodness of fit."

Get the regression equation into y1

4. Y= CLEAR VARS 5:Statistics... EQ 1 RegEq

Set the window

5. WINDOW *Fill in the window spec.s as shown below.*

xmin	80
xmax	100
xscl	10
ymin	4000
ymax	24000
yscl	5000

Display the scattergram and the fitted line

6. 2nd STAT PLOT 1 choose ON Type: xlist: L1 ylist: L2 Mark: +

7. GRAPH STAT PLOT choices set up a plot of the data points. Y1 holds the fitted line.

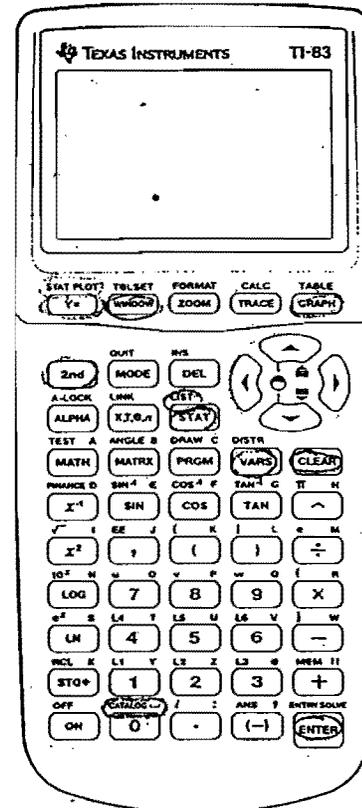


Figure: The TI-83. Circles show the keys used.

If your TI-83 did not display the r values, you need to turn DIAGNOSTIC ON. Press 2nd catalog (about where Phoenix would be) scroll to DiagnosticOn, press ENTER twice.

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