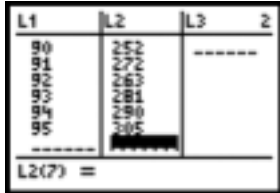


TI-83/TI-83 Plus Procedure 22: Finding Best-Fit Models

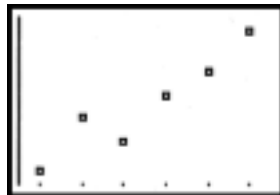
Example

Enter the data from the table at the right. Find the line of best fit.

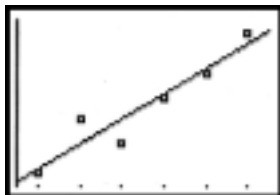
STEP 1: Press **STAT** **ENTER** to enter the years into **L1**. Subtract 1900 from each year. Enter the numbers of tourists into **L2**.



STEP 2: Press **2nd** [STAT PLOT] **1** to set up **Plot1**. Select **On**, point graph, **L1** for **XList**, and **L2** for **Ylist**. View the plot by pressing **ZOOM** **9**.



STEP 4: Press **Y=** **CLEAR** **VARS** **5** **▶** **▶** **1** **GRAPH** to graph the line.



*Note: By default, the TI-83/TI-83 Plus looks for **Xlist** and **Ylist** in **L1** and **L2**, respectively. Therefore, **L1** and **L2** do not need to be included with the command 'Lin Reg'.

Exercises

Enter each set of data. Calculate the indicated best-fit model.

1. Linear:

Middle Income Households

Year	Households (millions)
1975	38.0
1980	42.1
1985	43.9
1990	46.5
1994	46.5

Source: *US. Census Bureau*

2. Quadratic:

Year Lengths of the Outer Planets

Distance From Sun (Gm)	Year Length (days)
778.3	4,332.6
1427	10,759.2
2869.6	30,685.4
4496.6	60,268
5900.1	90,950

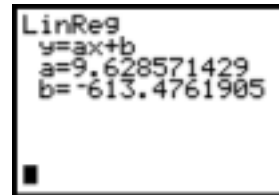
Source: *The Universal Almanac 1996*

Travel to Australia from the U. S.

Year	Tourists (in thousands)
1990	252
1991	272
1992	263
1993	281
1994	290
1995	305

Source: *USA Today*

STEP 3: Press **STAT** **▶** **4** **2nd** [L1] **+** **2nd** [L2] **ENTER** to compute the line of best fit.*



MORE FITS: Below are more fits that can be used. Press **STAT** **▶** . Select the desired fit model. Follow STEP 4 to graph any best fit. (TI-83: also logistic and sin fits.)

