

Working with Data

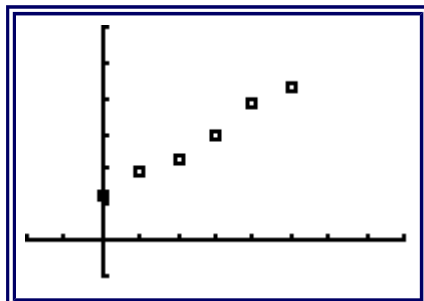
As an example, let's enter the following data into the calculator.

x	y
0	12.5
1	19.1
2	23.2
3	30.0
4	39.1
5	43.2

To begin, press **STAT** and select Edit. Enter the x-values in the L1 column, and the y-values in L2. (If there is old data in the lists that you need to clear out, put the cursor up on L1 or L2, press **CLEAR**, then press Enter or the down arrow to clear the list.)

L1	L2	L3	2
0	12.5	-----	
1	19.1		
2	23.2		
3	30		
4	39.1		
5	43.2		
-----	-----		
L2(?) =			

To plot the data, press **Y=**, clear out whatever functions you have in there, arrow up to **Plot1** and press Enter to turn it on. (Plot1 should be highlighted.)



Set an appropriate window, then press **GRAPH**.

Plot1	Plot2	Plot3
Y1 =		
Y2 =		
Y3 =		
Y4 =		
Y5 =		
Y6 =		
Y7 =		

Finding a Best-Fit Function

Finding a Best-Fit Function

Press **STAT**, and arrow over to **CALC**.
Our example (see above) looks essentially linear, so we select **4:LinearReg(ax+b)**.

Then press **VARS**, arrow over to **Y-VARS**, press Enter, and select **Y₁**. Once you have **LinReg(ax+b) Y₁** copied to the homescreen, press Enter.

```
LinReg(ax+b) Y1
```

Select	For this type of Model
4:LinearReg(ax+b)	Linear, $y=ax + b$
5:QuadReg	Quadratic, $y=ax^2 + bx + c$
6:CubicReg	Cubic, $y=ax^3 + bx^2 + cx + d$
9:LnReg	Logarithmic, $y = a + b \ln(x)$
0:ExpReg	Exponential, $y = a*b^x$
B:Logistic	Logistic, $y = c/(1 + a*e^{-b x})$
C:SinReg	Sinusoidal, $y = a \sin(bx + c) + d$

```
LinReg
y=ax+b
a=6.294285714
b=12.11428571
```

In our example, the result should be the line $y = 6.294x + 12.114$ (rounding to 3 decimal places).

Now press **GRAPH** to see a graph of the best-fit function together with the original data. To trace along the best-fit function, press **TRACE**, then press the down arrow (otherwise, you are tracing the scatter plot of the data, instead of the function in **Y₁**).

