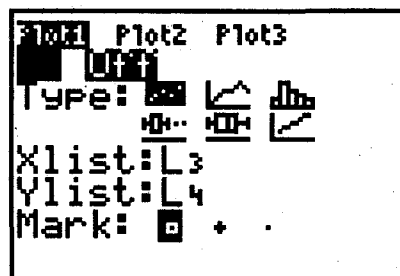
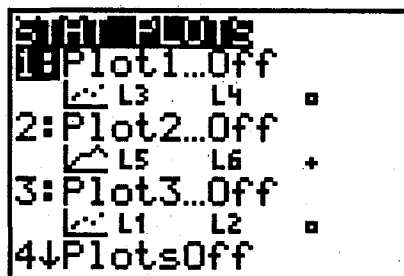
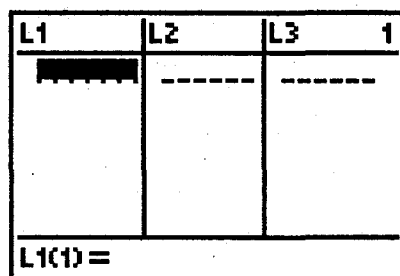
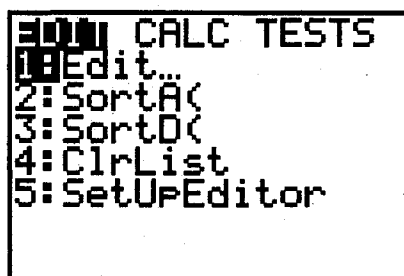


## To make a scatterplot of a function:

For a given set of ordered pairs or data, use the **STAT** button and option 1 (**EDIT**). Choose two available lists (**L1** thru **L6**), or clear any two list columns by going to the top of the column and using the **CLEAR** button. Make note of which columns you are using in order to refer to them in a later step. To enter the ordered pairs or data, enter each first data number in the first list column and each second data number in the second list column, hitting **ENTER** after each entry. Review each list to be sure there are no errors, correcting as required. Next, choose an appropriate viewing window by using the **WINDOW** button and make the required adjustments to each category. Next, use the 2<sup>nd</sup> **Y=** button (**STAT PLOT**) to create the graph characteristics. Choose one of the Plots (1, 2, or 3) and hit **ENTER**, opening the menu. Turn the Plot **ON** by hitting **ENTER**, then use the down arrow to choose the **Type** of graph, usually the first one (dots). Hit **ENTER**, and use the down arrow to indicate the **Xlist** and **Ylist**. If your two lists are showing, move on; if they are not, enter the appropriate list by using 2<sup>nd</sup> 1 for **L1**, 2<sup>nd</sup> 2 for **L2**, etc. Use the down arrow or **ENTER** to then choose the **Mark** (the box or plus sign is best). Once all that is done correctly, you should be able to use the **GRAPH** button to see the scatterplot.



To find the best regression line, choose the **STAT** button again, and move with the right arrow to the **CALC** menu. *★* Choose option 4 [**LinReg(ax+b)**] and identify the two lists that you used, separating them with a comma (**L1,L2** for example). After hitting **ENTER**, a **LinReg** display will appear on your screen which identifies an **a=** value and a **b=** value for your linear equation. This can be entered into the **Y=** screen for **Y1** to show your line on the graph with the scatterplot, or the following steps can be used to place it there automatically. (Remember the **r** value indicates how well the line matches the data, and the **r<sup>2</sup>** value can be ignored for lines.)

Choose **Y=**, then the **VARS** button and option 5 (Statistics) from the **VARS** menu. Move to the right to **EQ** and pick option 1 (**ENTER**). Your "a" and "b" values will appear on the **Y=** screen. Hitting the **GRAPH** button will show the line with the scatterplot points.

*★* Choose option 10 [**ExpReg**] for creating an exponential function.

Following are actual displays using the data from page 83, example 1 in the Harshbargar/Yocco textbook.

```

2:00 CALC TESTS
1: Edit...
2: SortA(
3: SortD(
4: ClrList
5: SetUpEditor
    
```

L1	L2	L3	2
0	888	1.5	
5	331		
10	415		
15	480		
20	580		
25	644		
28	666		

L2(1)=222

```

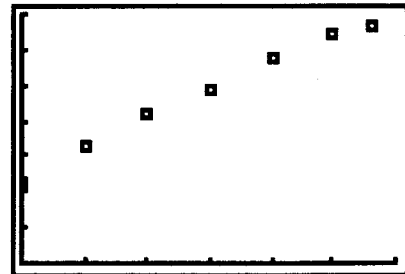
WINDOW
Xmin=
Xmax=30
Xscl=5
Ymin=0
Ymax=700
Yscl=100
Xres=1
    
```

```

5:00 2:00
1: Plot1...Off
   L3 L4
2: Plot2...Off
   L5 L6
3: Plot3...Off
   L1 L2
4: PlotsOff
    
```

```

2:00 Plot2 Plot3
Off
Type:
Xlist:L1
Ylist:L2
Mark:
    
```



```

EDIT 2:00 TESTS
1: 1-Var Stats
2: 2-Var Stats
3: Med-Med
4: LinReg(ax+b)
5: QuadReg
6: CubicReg
7: QuartReg
    
```

```

LinReg(ax+b) L1,
L2
    
```

```

LinReg
y=mx+b
a=15.90963588
b=242.7582149
r^2=.990569714
r=.995273688
    
```

```

2:00 Plot2 Plot3
\Y1=
\Y2=
\Y3=
\Y4=
\Y5=
\Y6=
\Y7=
    
```

```

2:00 Y-VARS
1: Window...
2: Zoom...
3: GDB...
4: Picture...
5: Statistics...
6: Table...
7: String...
    
```

```

2:00  $\Sigma$  EQ TEST PTS
1: Lin
2: X
3: SX
4: gX
5: gX
6: SX
7: r
    
```

```

XY  $\Sigma$  2:00 TEST PTS
1: RegEQ
2: a
3: b
4: c
5: d
6: e
7: r
    
```

```

2:00 Plot2 Plot3
\Y1 15.909635879
22X+242.75821492
004
\Y2=
\Y3=
\Y4=
\Y5=
    
```

