Instructions for the TI-83 for section 1.2

For this example, we will use the data:

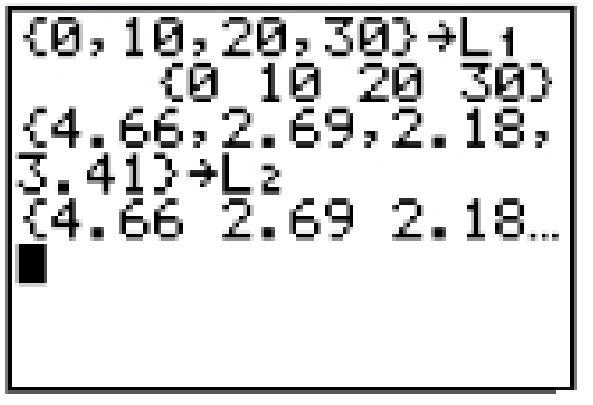
Year	Number of U.S. workers who worked at home (millions)
1960	4.66
1970	2.69
1980	2.18
1990	3.41

First, we standardize the data so that x=0 corresponds to 1960, x=10 corresponds to 1970, x=20 corresponds to 1980, and x=30 corresponds to 1990. Then we turn to the calculator

1. Enter the data into your calculator as the lists L_1 (time) and L_2 (workers). To do this, use the following key strokes:

   [2nd] [(] 0 [,] 10 [,] 20 [,] 30 [2nd] [)] STO-> [2nd] 1 ENTER
   [2nd] [(] 4.66 [,] 2.69 [,] 2.18 [,] 3.41 [2nd] [)] STO-> [2nd] 2 ENTER

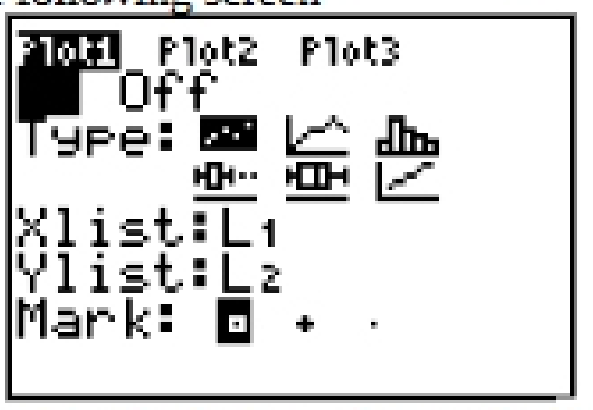
The output to your screen should be



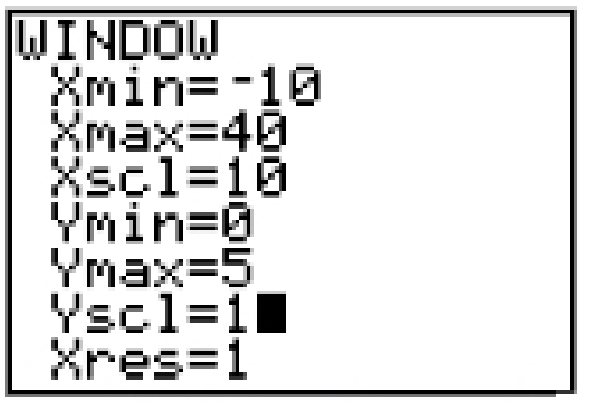
2. Create a scatterplot. Use the following key strokes:

   [2nd] [Y=] ENTER

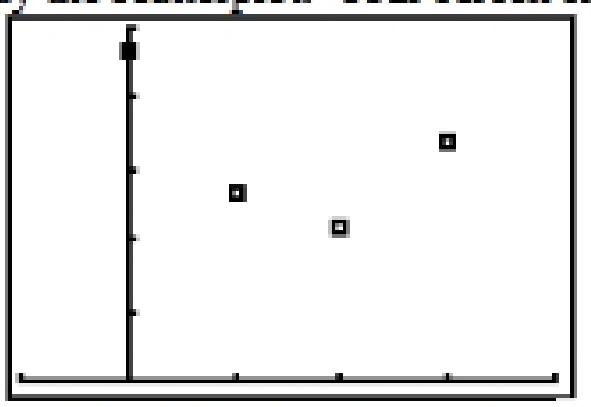
(Note: by hitting ENTER, you are choosing option 1. Option 2 and 3 are also available as choices) this gives you the following screen



you want to make sure that the On, the first graph type, the lists L_1 and L_2 are shown, and the first mark type are shaded. If not, hit ENTER to select the appropriate item (or for the lists, hit the appropriate key to get L_1 and L_2). Now, hit the WINDOW key to set the dimensions of the graph screen. For this particular example, we will set the window to be a [-10,40] by [0,5]. Check that your screen matches the one below.



Hit the Y= and check to make sure that all equations are cleared from your calculator.
Hit the GRAPH key to display the scatterplot. Your screen should match the one below.

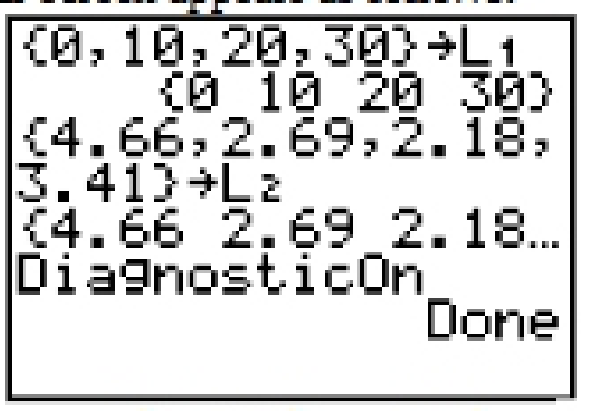


3. Find the regression. First, use the following key strokes to set the calculator so that r and/or r^2 will appear. Use the following key strokes:

2nd 0

This brings up the catalog. Hit the down arrow until you find the DiagnosticOn command.

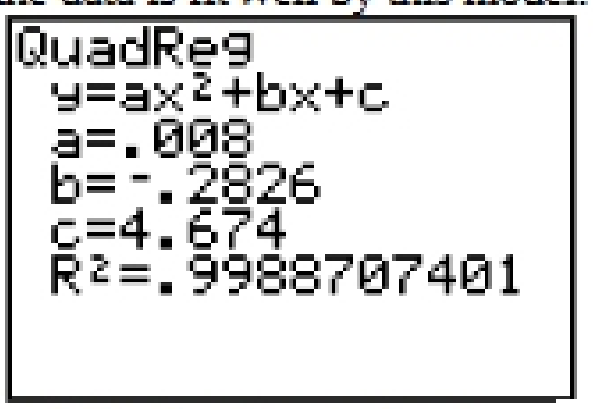
Hit ENTER twice so that your screen appears as follows:



Now use the following key command to get the regression.

STAT right arrow to CALC command then down arrow to chose the type of regression. For this example we will use a quadratic regression. Select this and press ENTER or hit the 5 key. Now, type 2nd 1 , 2nd 2

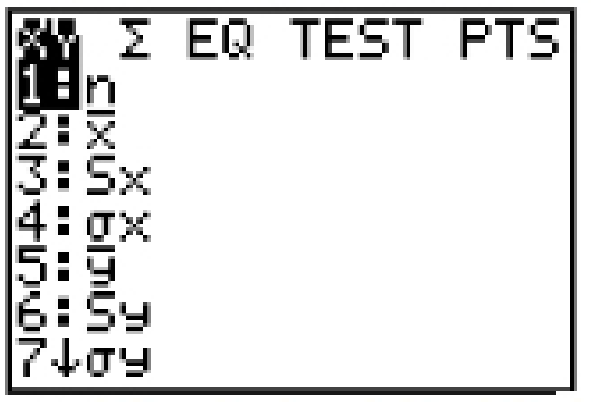
Press enter to display the coefficients of our quadratic equation. Notice the value of r^2 is very close to 1. This means the data is fit well by this model.



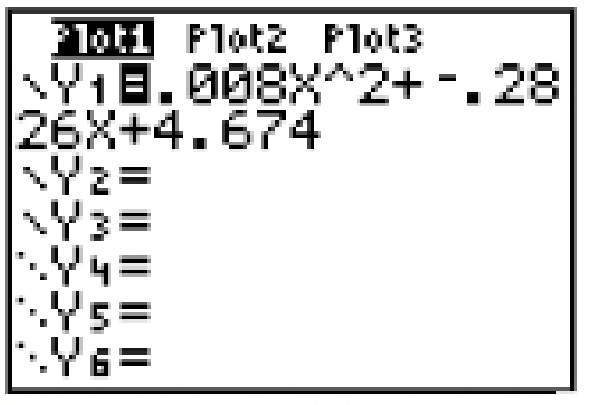
4. Plot the regression. Use the following key strokes:

Y= VARS

That brings up a list of options. Choose 5: Statistics… The new menu should be



Use the right arrow key to choose EQ and select 1: RegEQ. Press ENTER. You should be brought back to the graphing screen. Your regression equation is now entered as the Y_1= value.



Hit the GRAPH key. You now see how your model fits the data.