Statistics - TI 84 Calculator – Linear regression

Words in **bold** represent calculator keys

<u>Before you begin</u>: Clear any equations in the **Y=** editor
Turn on the stat diagnostic: **mode**, arrow down to stat diagnostics, move cursor to on, **enter**. To quit this menu **2nd mode (quit)**. The stat diagnostics will stay on until the calculator is reset.

<u>Enter data in lists L1 and L2</u>
STAT, 1:Edit, **enter**
Clear any old data: arrow up until List name is highlighted then **clear enter**
Type the independent (*x*) values in L1, using enter after each value
Arrow to right to L2 and enter the dependent *(y)* values
Make sure the 2 lists are the same length or you will get a dimension error

<u>Making a Scatterplot</u>
2nd y= (stat plot)
1: Plot1, **enter**
enter to turn plot on
type: 1st choice is scatterplot
xlist: L1 (This is the default. To change use **2nd 2** for L2**, 2nd 3** for L3 etc)
ylist: L2 (This is the default. To change use **2nd 2** for L2**, 2nd 3** for L3 etc)
Mark: choose the mark for the data points
Color: choose a color for the graph
GRAPH
If you cannot see the graph in the window then **ZOOM 9 (ZoomStat)**

<u>Getting the regression equation:</u>
STAT, arrow right to CALC, 4:LinReg(ax+b)
XList: L1 (This is the default)
YList: L2 (this is the default)
FreqList: Leave blank unless using a frequency factor for the data
Store RegEQ: **VARS,** Y-vars, 1:Function, **enter,** 1:Y1, **enter**
         OR **alpha trace** 1.Y1 **enter**
     (This stores the regression equation in Y1 so it can be graphed with the data)
Arrow to Calculate **enter**

<u>Output</u>: y= ax+b,
a is the slope of the regression line,   b is the y-intercept,   r-squared and r the correlation coefficient

If you made a scatterplot before calculating the regression equation then **graph** now will show the data and the regression line. You can see the regression equation is **Y=.**

The <u>residuals</u> are in **2nd stat** 7: Resid