

Linear Regression Analysis

Fitting a Regression Line to a Data Set

1. Create a list of x values as L_1 and the corresponding y values as L_2 .
2. Enter window settings that will encompass the data and the anticipated projected values.

3. Set the parameters for Plot1:

```
2nd Y=
1... Plot1 On      [Turn Plot1 Off for other than LinReg operations]
Plot1
Type (scatter)
Mark 
ENTER
```

4. GRAPH to plot the data points.

5. Fit the regression line to the data:

```
2nd 0 DiagnosticOn (required to display r value; do this only once)
STAT ► CALC 4:LinReg (ax+b)
LinReg (ax+b) 2nd 1 | 2nd 2 | VARS ► Y-VARS ENTER ENTER
LinReg (ax+b) L1, L2, Y1
ENTER
```

LinReg

$$y = ax + b$$

$$a = 123.4567\dots$$

$$b = 1.2468\dots$$

$$r^2 = .9999\dots$$

$$r = .9999\dots$$

a is the slope of the regression line

b is the y-intercept (value at $x = 0$)

r is the measure of fit (as a percentage)

6. 2nd TRACE 1:Value ENTER

7. X= ___ Enter a value to get projection.