

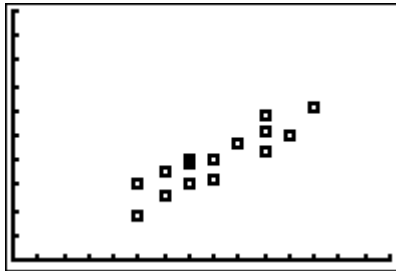
TI-83/84 How To Series

Topic: Drawing a Line of Best Fit and Finding the Corresponding Equation/Rule





Usually, after drawing a scatter plot of a set of data, you would like to see how it trends, whether linearly (a straight line) or non-linearly (exponentially, power, logarithmic, etc.) This topic covers how to draw and find the corresponding equation of a linear line given a set of data.

Steps

1. Plot your data using the list and scatter plot function of your calculator. Refer to topic [Drawing a Scatter Plot](#). As a reminder, the plot we came up with was



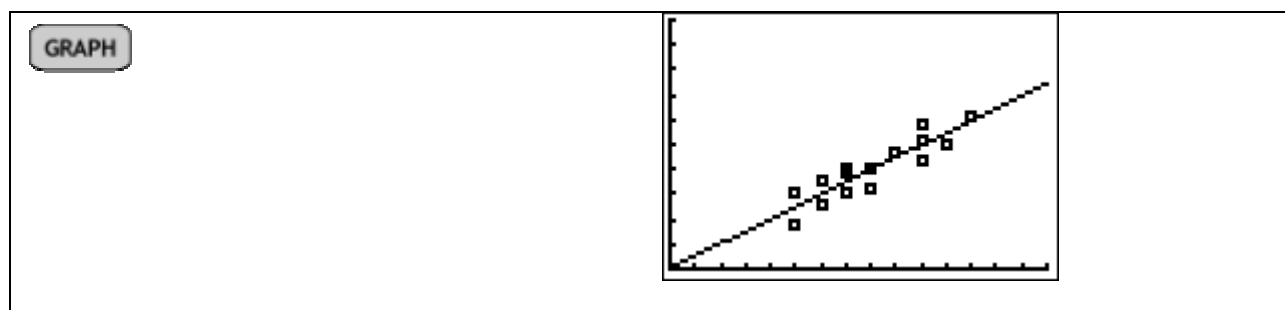
2. Once you have your scatter plot you can now draw your line. First we need to find the equation of the line.

<p> </p> <p>Bring up the Calculations screen of STAT</p>	<pre>EDIT [2ND] [MODE] TESTS 1:1-Var Stats 2:2-Var Stats 3:Med-Med 4:LinReg(ax+b) 5:QuadReg 6:CubicReg 7↓QuartReg</pre>	
<p> </p> <p>We have chosen to use a LinReg (Linear Regression) because it appears the data is trending toward a straight line. The line is given in the slope intercept form and “a” represents the slope and “b” the constant. Therefore, our equation for the line becomes</p> $y = 0.4943227092 x + 0.0257968127$	<pre>LinReg y=ax+b a=.4943227092 b=.0257968127</pre>	

3. It can get confusing and difficult to remember all of the numbers the calculator found. However, there is an easy way. The calculator can put these numbers into a “y =” format for us in the correct place as an equation. Remember, to draw a line we need to enter it into “y =” of the calculator.

<p>Y= VARS</p> <p>We are interested in Statistics.</p>	<pre> Vars Y-VARS 1:Window... 2:Zoom... 3:GDB... 4:Picture... 5:Statistics... 6:Table... 7:String... </pre>	
<p>5))</p> <p>Using your arrow keys scroll of to EQ.</p>	<pre> XY Σ EQ TEST PTS 1:RegEQ 2:a 3:b 4:c 5:d 6:e 7:↓ </pre>	
<p>ENTER</p> <p>This series of keystrokes allowed us to take our output from the previous screen and insert it into our y = screen. Notice how the equation of the line is transferred as if we input the information ourselves.</p>	<pre> Plot1 Plot2 Plot3 \Y1 0.49432270916 335X+.0257968127 489 \Y2 = \Y3 = \Y4 = \Y5 = </pre>	

4. To view our line of best fit.



We are finished. Now isn't that easier than drawing everything yourself out on graph paper.