Stats on the Casio

We often will have a problem in a class where we are given some data and need to find an equation to fit that data. Look at an example in the following book.

Statistics, second ed. James T. McClave and Frank H. Dietrich, II.

The power usage for a small town at various temperatures is given in the following table. Which type of model best fits this data? Find the model.

temp, ° F	68	76	85	92	100
Power	96.3	100.9	111.4	135.1	143.6

We can choose the following types of regression:

One-Variable the statistics results for one variable.

Two-Variable returns the statistics results for two variables, e.g. $\bar{x}$, $\sum x^2$, $\sum x\,y$.

Linear Reg for linear regression, $y = ax + b$

Quadratic Reg for quadratic regression, $y = ax^2 + bx + c$.

Cubic Reg for 3rd order regression, $y = ax^3 + bx^2 + cx + d$.

Quartic Reg for 4th order regression, $y = ax^4 + bx^3 + cx^2 + dx + e$.

Logarithmic Reg for logarithmic regression, $y = a + b\ln(x)$.

Exponential Reg for exponential regression, $y = a \cdot b^x$.

Power Reg for power regression,$y = a \cdot x^b$.

Below is a possible path through the Statistics Window using Linear Regression.

From the Menu window tap the Statistics icon, 

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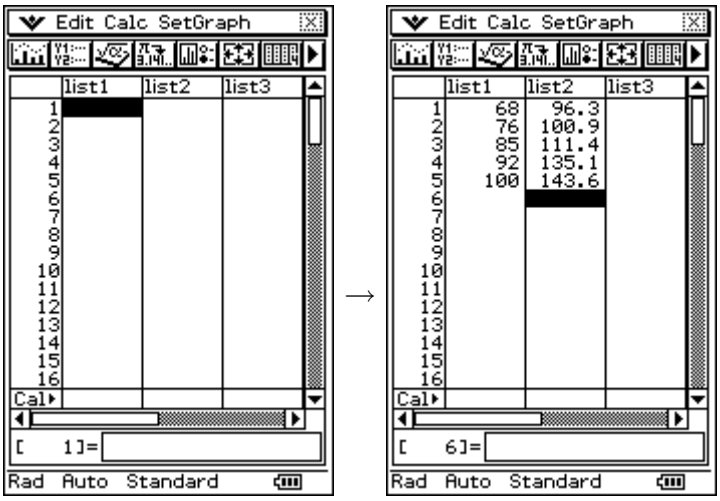
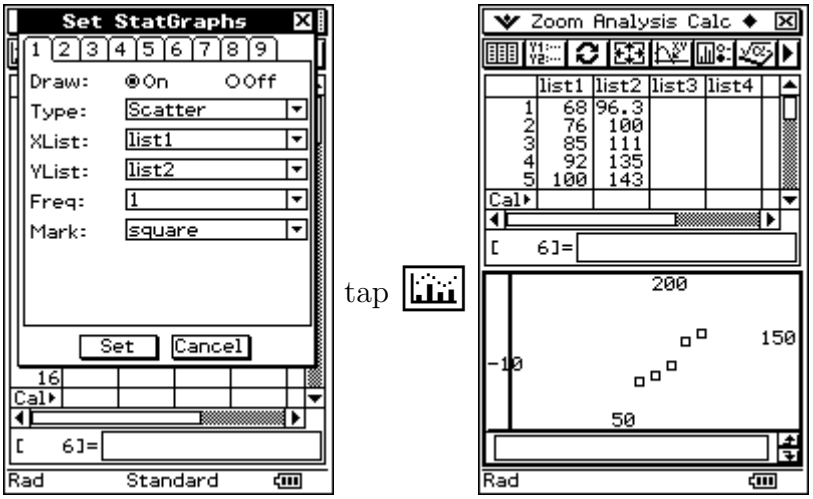
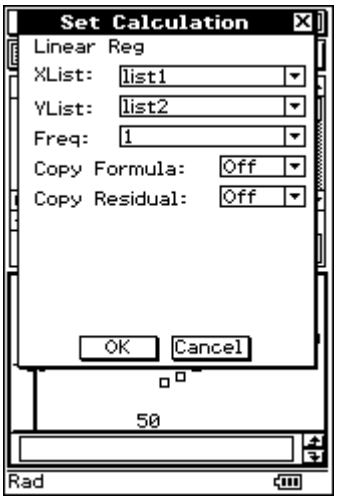


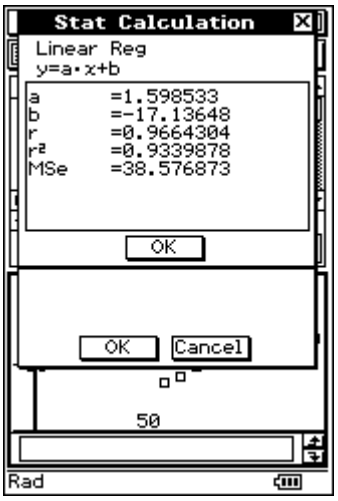
Tap the button  , to set up the scatter plot.



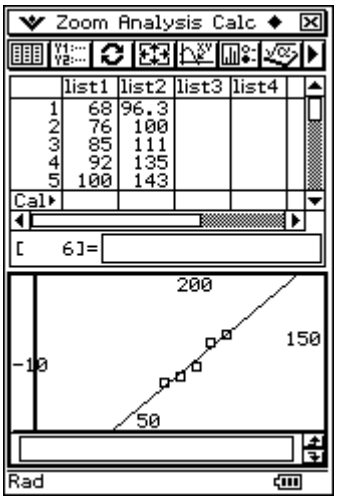
Back in the Statistics/List window follow the menu CALC to `Linear Reg`.



tap OK



tap OK



The regression is done.