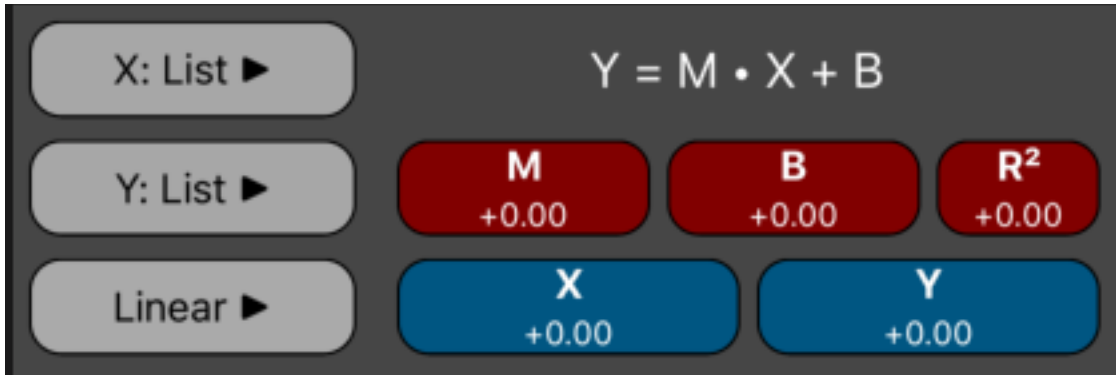


# Curve Fitting Menu

This menu allows you to perform regressions and forecasting over a two previously created data-lists. To show the menu, touch the “**SUM**” button in the main menu, the “**CALC**” button and the “**Regression**” button or, in a more direct way, touch the “**SCI**” menu and select the “**Curve Fitting**” option.



Button	Description
[ X-List ► ]	Select the ‘X’ variable data-list.
[ Y-List ► ]	Select the ‘Y’ variable data-list
[ Linear ► ]	Select the regression model to use (Linear, Logarithmic, Exponential, Power, Exponent or Inverse).
[ X ]	Stores the ‘X’ value or calculates it for a given ‘Y’ value using the current model equation.
[ Y ]	Stores the ‘Y’ value or calculates it for a given ‘X’ value using the current model equation.
[ M ]	Calculates the ‘M’ coefficient for the selected model.
[ B ]	Calculates the ‘B’ coefficient for the selected model.
[ R <sup>2</sup> ]	Calculates correlation coefficient for the selected model.

## Example: Curve Fitting.

Using the “Minutes” and “Sales” lists created in “X,Y Statistics” example, what regression model best fits the data?.

Solution :

Keystrokes	Description
[SUM] [CALC]	Shows the CALC menu.
[Regression]	Shows the Regression menu.
[ X: List ►] “Minutes”	Select the “Minutes” list as ‘X’ variable.
[ Y: List ►] “Sales”	Select the “Sales” list as ‘Y’ variable.
[ Linear ►]	Select the “Linear” model
[ R <sup>2</sup> ]	Linear model => R <sup>2</sup> = 0.94
[ Logarithmic ►]	Select the “Logarithmic” model
[ R <sup>2</sup> ]	Logarithmic model => R <sup>2</sup> = 0.87
[ Exponential ►]	Select the “Exponential” model
[ R <sup>2</sup> ]	Exponential model => R <sup>2</sup> = 0.93
[ Power ►]	Select the “Power” model
[ R <sup>2</sup> ]	Power model => R <sup>2</sup> = 0.89
[ Exponent ►]	Select the “Exponent” model
[ R <sup>2</sup> ]	Exponent model => R <sup>2</sup> = 0.93
[ Inverse ►]	Select the “Inverse” model
[ R <sup>2</sup> ]	Inverse model => R <sup>2</sup> = -0.77

The best model is the Linear because it has the  $R^2$  coefficient closest to 1.  
 So the relation is : **Sales = 387.00 \* Minutes + 441.33**

Now, what is the estimated sales for a 8 minutes of advertising? and,  
 Estimate how many minutes are needed to obtain \$3,000.0 of sales?



**Solution :**

Keystrokes	Description
8 [ X ]	Input the number of Minutes. <b>Minutes = 8.00</b>
[ Y ]	Calculate the estimated sales. <b>Sales = 3,537.33</b>
3000 [ Y ]	Input the Sales amount. <b>Sales = 3,000.00</b>
[ X ]	Calculate the estimated minutes. <b>Minutes = 6.61</b>