

# SUM Calc. Menu

This menu allows to perform basic statistic calculations over a previously saved X,Y data list. To show it, touch the “**OPT**” key and in the “**2) Statistics:**” section, touch the “**SUM Calc.**” button.



[Get List ►]	If enabled, shows all previously saved data list available. Select the one to use in the calculations.
[Forecast]	Shows the “ <b>Curve Fitting</b> ” menu with the current list selected.
[Editor]	Shows the “ <b>X,Y Data Editor</b> ” view to create a new “data list” or to edit the current one.
[Ln(x)]	Perform calculations with the natural logarithm of X-values.
[Ln(y)]	Perform calculations with the natural logarithm of Y-values.

<b>[Mean]</b>	Calculates the current list <b>average</b> of X and Y values.
<b>[Median]</b>	Calculates the current list <b>median</b> of X and Y values.
<b>[St.Dev.]</b>	Calculates the current <b>standard deviation</b> of the X and Y values.
<b>[Min]</b>	Shows the current list <b>minimum</b> of X and Y values.
<b>[Max]</b>	Shows the current list <b>maximum</b> of X and Y values.
<b>[Range]</b>	Calculates the current list difference between the maximum and the minimum of the X and Y values.
<b>[Correlation]</b>	Calculates the <b>correlation coefficient</b> of the X and Y values.
<b>[G.St.Dev.]</b>	Calculates the standard deviation of the X values with Y frequencies.
<b>[W. Mean]</b>	Calculates the <b>weighted mean</b> of the X values using Y values as weight.
<b>[ <math>\Sigma x</math> ]</b>	Calculates the sum of the X values.
<b>[ <math>\Sigma y</math> ]</b>	Calculates the sum of the Y values.
<b>[ <math>\Sigma x^2</math> ]</b>	Calculates the sum of the squares of the X values.

<b>[ <math>\Sigma y^2</math> ]</b>	Calculates the sum of the squares of the Y values.
<b>[ <math>\Sigma xy</math> ]</b>	Calculates the sum of X values times Y values.

### Example:

For the last six weeks the following data was collected: minutes of advertising purchased in local radio and the corresponding total sales:

Week	Minutes	Sales
1	2	\$1,400
2	1	\$920
3	3	\$1,100
4	5	\$2,265
5	6	\$2,890
6	4	\$2,200

Use the “**Input X,Y Data**” menu or “**X,Y Data Editor**” tool to create the “Minutes-Sales” lists using the above data. Then, calculate all the statistical values included in this menu.

### Solution: First Create the data list in the “Input X,Y Data” menu

<b>[OPT] [Input X,Y Data]</b>	Shows the “Input X,Y Data” menu
<b>[Action▶] ‘New List’</b>	Reset the list
<b>2 [INPUT] 1400 [INPUT]</b>	Enters the Sample #1.

1 [INPUT] 920 [INPUT]	Enters the Sample #2.
3 [INPUT] 1100 [INPUT]	Enters the Sample #3.
5 [INPUT] 2265 [INPUT]	Enters the Sample #4.
6 [INPUT] 2890 [INPUT]	Enters the Sample #5.
4 [INPUT] 2200 [INPUT]	Enters the Sample #6.
[Action ►] 'NAME List'	Save the list to a file. Name the file "Minutes-Sales" and touch "Save".

[CALC]	Show the "SUM Calc." menu.
[Mean]	Calculates the mean of the list: X-mean = 3.50 Y-mean = 1,795.83
[Median]	Calculates the median of the list. X-median = 4.50 Y-median = 1,250.00
[St.Dev.]	Calculates the standard deviation of the list. X-st.dev = 1.87 Y-st.dev. = 773.13
[Min]	Calculates the lowest values of the list. X-st.dev = 1.00 Y-st.dev. = 920.
[Max]	Calculates the highest values of the list. X-st.dev = 6.00 Y-st.dev. = 2,890.00
[Range]	Calculates the lowest values of the list. X-range = 5.00 Y-range. = 1,970.00
[Correlation]	Calculates the correlation of X and Y values: Correlation = 0.94

<b>[G.St.Dev.]</b>	Calculates the group standard deviation of the list: <b>G.St.Dev. = 1.63</b>
<b>[W. Mean]</b>	Calculates the Weighted Mean of the list: <b>W.Mean = 4.13</b>
<b>[ <math>\Sigma x</math> ]</b>	Calculates the Total of X values: <b><math>\Sigma x = 21.00</math></b>
<b>[ <math>\Sigma y</math> ]</b>	Calculates the Total of Y values: <b><math>\Sigma y = 10,775.00</math></b>
<b>[ <math>\Sigma x^2</math> ]</b>	Calculates the Total of the squares of X values: <b><math>\Sigma x^2 = 91.00</math></b>
<b>[ <math>\Sigma y^2</math> ]</b>	Calculates the Total of the squares of Y values: <b><math>\Sigma y^2 = 22,338,725.00</math></b>
<b>[ <math>\Sigma xy</math> ]</b>	Calculates the Total of X times Y values: <b><math>\Sigma xy = 44,485.00</math></b>