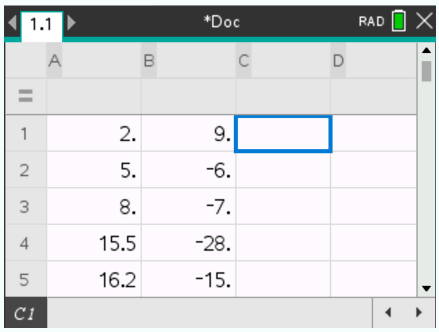
4.10 Spearman's Rank coefficient

Consider the following set of datas:

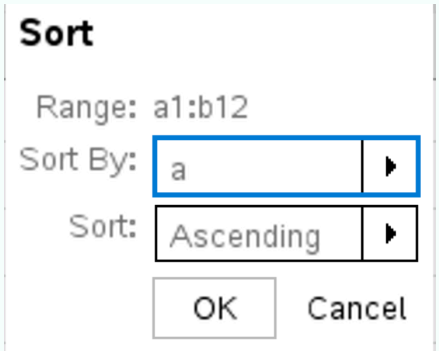
x	2	5	8	15.5	16.2	14	12	13	2.5	1	0.5	−3
y	9	−6	−7	−28	−15	−20	−15	−20.3	9	4.1	6	12.1

Let's see how to rank these values with the TI-Nspire.

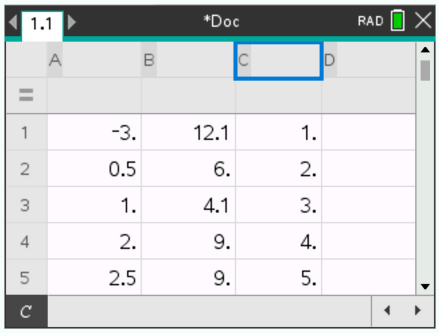
① First create a new document, select Add Lists & Spreadsheets and add your data:



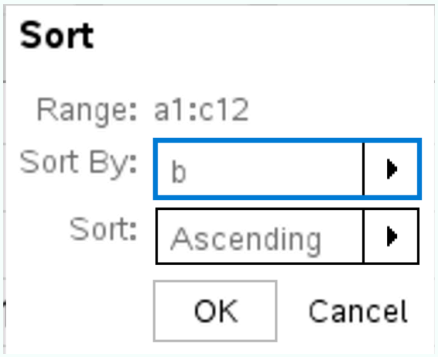
② Then, select all cells of column A and B. Press menu and select Actions > Sort. Fill the parameters as follows and press enter :



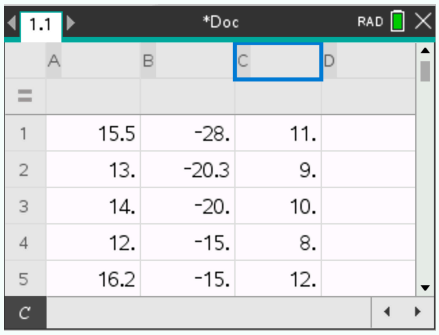
③ Put numbers from 1 to 12 in column C:



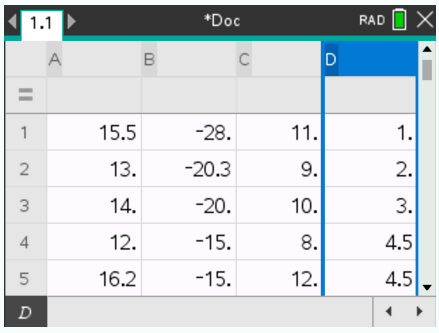
④ Now select all cells of column A, B and C. Press menu and select Actions > Sort. Fill the parameters as follows:



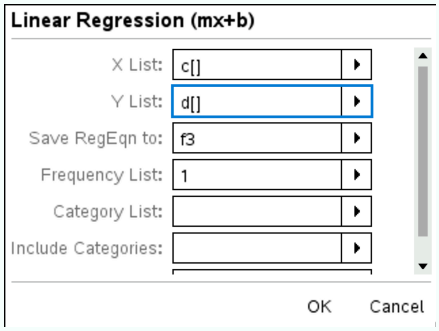
Press enter. This table should be displayed:



⑤ Put numbers from 1 to 12 in column D. Be careful here, we see duplicates values in column B. When it is the case, put the mean of the ranking. Here we have same values for 4th and 5th position, which means we put 4.5 two times. Same for 10th and 11th position, we put 10.5 two times.



⑥ Do a linear regression on C and D. To do so, press menu and select Statistics > Stat Calculations > Linear Regression (mx+b). Fill the parameters as follows:



These results should appear:

E	F
	=LinRegM
m	-0.878
b	12.2
r^2	0.776
r	-0.881
Resid	{-1.5506...

The r value displayed is the ramked Spearman correlation coefficient.