Chapter 14 / Example 4
Test for the product moment correlation coefficient

The number of times students are late for school and the distance they live from school is thought to be related. A sample of eight students is selected randomly and the data for the previous six weeks is checked. The following results were obtained.

Distance from school (km)	Number of times late	Distance from school (km)	Number of times late
5.2	5	2.3	1
1.4	2	2.8	3
6.7	0	7.0	2
8.8	6	0.5	0

Test at the 5% level whether there is a linear relationship between the two variables.

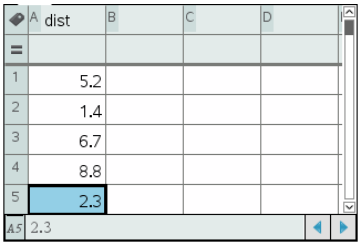
Open a new document and add a Lists & Spreadsheet page.

Type 'dist' in the first cell.

Type the distances in the first column.

Press enter or ▼ after each number to move to the next cell.

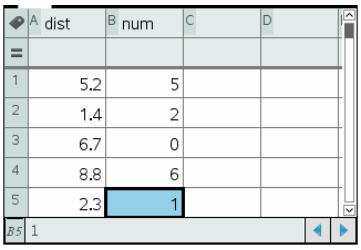
Note: *'dist' is a label that will be used to calculate the correlation coefficient. You can use any letter or name to label the list.*



Type 'num' in the cell to the right of 'dist'

Enter the number of times late in the second column.

Use the ▲ ▼ ▶ ◀ keys on the touchpad to navigate the spreadsheet.



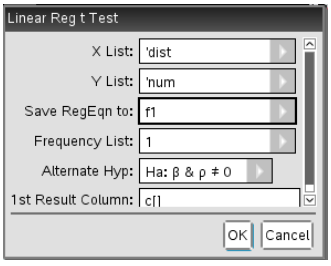
To calculate the *p*-value

Press menu 4:Statistics | 4:Stat Tests | A:Linear Reg t Test…

Open the drop down lists with ▶ and select using ▼ and enter

Choose 'dist' for X List and 'num' for Y List and set Ha:β & ρ ≠0 and leave the remaining fields unchanged.

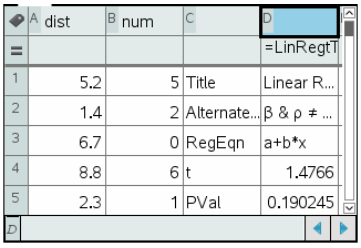
Click the touchpad on OK or press enter



Chapter 14 / Example 4
Test for the product moment correlation coefficient

The *p*-value is 0.190.

0.190 > 0.05 hence no reason to reject the null hypothesis.



	A dist	B num	C	D
				=LinRegtT
1	5.2	5	Title	Linear R...
2	1.4	2	Alternate...	β & ρ ≠ ...
3	6.7	0	RegEqn	a+b*x
4	8.8	6	t	1.4766
5	2.3	1	PVal	0.190245