

# Lists and the Graphic Calculator.

Here is the basic data received from 1 class answering the question on how far they travelled to school. ( nearest km )

2, 0, 0, 2, 1, 4, 0, 1, 3, 5, 2, 1, 1, 1, 0, 1, 0, 0, 2, 0, 8, 0, 1, 1

Enter these results into your graphic calculator ( Check all lists have been cleared before you start (STAT 4 L1, L2,L3) then STAT 1, enter values )

On the home screen ( use 2<sup>nd</sup> QUIT to get there ) enter L1 (6). What information does this give you ?

Write down the values of L1 (10) and L1 (24)

Your calculator can sort out the data into order and can calculate all sorts of statistics for you. Following is a summary of how to access these statistics plus some questions for you to answer.

To sort the data into order ( STAT 2 L1) check in your lists

To work out the 6 commonest asked for statistics STAT – CALC 1 L1

To find out individual statistics VARS 5 (n , x,  $\sigma x$ , min, max,  $\Sigma x$ ,  $\Sigma x^2$ , Q1, Med, Q3 )

To change the units you are working in eg in this example you may wish to change from Km to miles and store this information into List 2

L1 x 1.6 STO> L2

To work out answers to questions such as " How many people live 2 or more km from school" L1 TEST 4 2

For the given data use your calculator to work out

1. Average (Mean) distance pupils travel to school
2. Median distance to school
3. The number of pupils in this class
4. Minimum and maximum distance to school
5. Upper quartile of the data
6. Sum of the squares (  $\Sigma x^2$  )
7. Standard deviation between distances
8. How many pupils travel 3 or more km to school
9. How many pupils travel less than 1 mile

Can you show the information in graphical form ?

Try to get your calculator to draw a box plot and a histogram of the data.

Now use the data from your own class and make up a series of questions for someone else to try using a graphical calculator.

Answers  
1. 1.5 km 2. 1km 3. 24pupils 4. 0km min 8km max  
5. 2km 6. 138 7. 1.87km 8 4pupils 9. 8pupils.