Level 4: Statistics 1

1) Learn how to calculate the three different types of average: -

a) Mean

Add up all the numbers and divide by the number of numbers, for example: -

25   26   29   31   31

Total = 142

Mean = 142 ÷ 5 = 28.4

b) Median

Arrange the numbers in order and find the middle one, for example: -

118   156   173   188   200   201   223

Median = 188

If there is an even number of numbers in the list, find the middle two numbers, add them together and half the total, for example: -

45 48 51   56   58   50   55   68

56 + 58 = 114, 114 ÷ 2 = 57

Median = 57

c) Mode

The mode is the number which appears most often in the list, for example: -

17   18   18   18   18   19   19   21   21   21   25   30

Mode = 18

We may also refer to the mode as the modal value.

2) Learn how to calculate the range.

The range is the difference between the smallest and largest numbers on the list, for example: -

56   45   64   81   62   58   66   52   32   79   74   44   54   66
   Smallest   Largest

Range = 81 – 45 = 36

6) Solve problems such as: -

a) Write down a list of five numbers which have a mean of 10 and includes the number 23.

b) Here are the marks of two groups of pupils.

Group A	Group B
93 39 46 54 60	72 75 68 75 71 67 76

   i) Which group did best in the test?

   ii) Which group had the widest spread of marks?

Show working to justify your answer.

c) Joe had six exams to sit. His Dad said that, if Joe got an mean mark of 70%, he would buy him a new phone.

Joe has got his marks back from five exams and his mean mark is 68. What is the minimum he must have scored in the sixth exam to get his new phone?

REMEMBER TO SHOW ALL YOUR WORKING
AND EXPLAIN YOUR ANSWER FULLY!