MEAN, MEDIAN, MODE, RANGE

Guidance

1. Read each question carefully before you begin answering it.
2. Spend proper time for each question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

1. James has a spinner that has sections labelled 1 to 5.
   He spins the spinner 10 times.

   Here are his scores.

   1   4   4   2   3   4   5   1   4   1

   (a) Find the mode.

   .... **(1)**

   (b) Work out the mean.

   .... **(2)**

   (c) Work out the range.

   .... **(2)**

2. Simone records the number of minutes she spends on her mobile phone over 7 days.

   8   5   13   6   24   19   10

   Find the median.

   ....minutes **(2)**

3.   Here are the ages of 9 children at a birthday party.

   10   12   13   10   11   14   15   10   12   13

   (a)   Find the mode.

                                                                    ....
                                                                         (1)

   (b)   Find out the median.

                                                                    ....
                                                                         (2)

   (c)   Work out the range.

                                                                    ....
                                                                         (2)

   (d)   Work out the mean.

                                                                    ....
                                                                         (2)

4.   A football team played six games.
     Here are the number of goals they scored in each game:6

              0   3   2   2   5

     (a) Work out the median number of goals scored.

                                                    ....
                                                              (2)

     (b)   Work out the mean number of goals scored.

                                                    ....
                                                              (2)

The football team play one more game.
The mean number of goals scored increases to 4.

     (c)   Work out the number of goals scored in the seventh game.

                                                    ....
                                                              (2)

5. Miss Jones gives her class a test.
    The test is out of 40 marks.

    Here are their scores.

    31   29   20   35   32   38   32

    (a) Work out the mode.

    ....
    (1)

    (b) Work out the median.

    ....
    (2)

    (c) Work out the range.

    ....
    (2)

    The pass mark for the test is 75%.

    (d) How many students pass the test?

    ....
    (2)

6. Hannah is recording the number of letters in each word in an article.

   These are the first ten lengths.

   3   4   5   6   2   4   3   7   3   6

   (a) Work out the median.

   ....
   (2)

   (b) Calculate the mean.

   ....
   (2)

   The 11th word has 4 letters.

   (c) Tick the box which describes what affect this will have on the mean.

   The mean will   The mean will   The mean will
   decrease   remain the same   increase

   ☐   ☐   ☐

   (1)

   (d) Tick the box which describes what affect this will have on the median.

   The median will   The median will   The median will
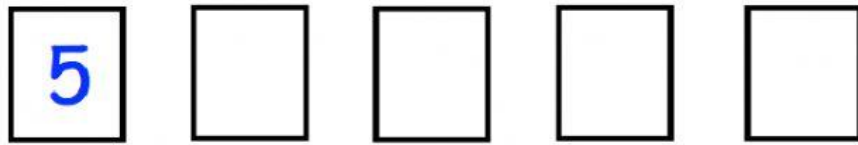   decrease   remain the same   increase

   ☐   ☐   ☐

   (1)

7.   Shown below are five cards which are arranged in order from smallest to largest

The range of the cards is 4.
The median of the cards is 8.
The mean of the cards is 7.

Work out the 4 missing numbers.

............, ..., ... and ....

(4)

8. 8 boys and 8 girls from a class run 100m.
The times taken, to the nearest second, for each girl are:

15   20   24   18   19   21   26   29

The mean of the boys' times is 25 seconds.
The range of the boys' times is 14 seconds.

Thomas says that "the boys in our class are faster than the girls."

Is he correct?

(5)

9. A set of six numbers have a median of 5.
   All of the numbers are even.
   The range of the numbers is 6.
   The mode of the numbers is 4.

   Write down a possible set of six numbers.

............., ..., ..., ..., ... and ....

(4)