

Surname	
Other Names	
Candidate's Signature	

GCSE 9 - 1 Questions

Averages 1

Calculator Allowed

INSTRUCTIONS TO CANDIDATES

- Write your name in the space provided.
- Write your answers in the spaces provided in this question paper.
- Answer ALL questions.
- Any working should be clearly shown in the spaces provided since marks may be awarded for partially correct solutions.

Total Marks :

1)

The ages, in years, of 8 members of a fitness club were:

55 37 34 42 46 29 31 62

(a) Find the median of their ages. [2]

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(b) Find the range of their ages. [1]

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(c) Find the mean of their ages. [3]

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(d) Assuming that the membership has not changed in the last four years, what were the mean and range of their ages four years ago? [2]

mean = range =

2)



A newsagent sold the following numbers of copies of *The Evening Post* on each evening from Monday to Saturday.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
50	30	49	54	57	54

- (a) Find the mean, median, mode and range for the number of copies of *The Evening Post* sold per day by the newsagent. [7]

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Mean	Median	Mode	Range

(b) The newsagent says

“The mean is the best average to use for the number of copies of *The Evening Post* sold per day over the 6 days!”

Do you agree with the newsagent? Give a reason for your answer.

[1]

3) The miles travelled by an insurance salesperson over 8 days were:

55 44 109 76 87 59 73 35

(a) Find the median

[2]

(b) Find the range of the mileages

[1]

(c) As an extra payment, the salesperson is paid 40p per mile travelled over 70 miles on any day.

Calculate the total extra payment received for the mileage over these 8 days.

[3]

4)

Leah has received many detentions in school for not completing her homework.
 The reason why she is receiving detentions is because she spends too much time playing games on her games console.
 She decides to investigate the amount of time she spends playing games.
 She records the number of minutes that she spends each day playing games.
 The following are her results.

Day	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Minutes	68	80	30	68	120	240	185

(a) On which day did Leah spend exactly half an hour playing on her games console?

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(b) Find the mean, median, mode and range of the number of minutes spent per day playing games on her games console.

Mean

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Median

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Mode

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Range

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[7]

5)

Jimmy recorded the following 7 waiting times, in minutes, for meals at a local restaurant.

17 24 19 30 19 25 20

- (a) Find the mean, median, mode and range of the 7 waiting times. [7]

Mean

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Median

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Mode

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Range

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- (b) Jimmy recorded an extra waiting time at the restaurant.
This made the range of the 8 waiting times equal to the mode of the 8 waiting times.
Find a possible value for this extra waiting time. [2]

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6)

The lengths, in cm, of 8 pieces of wood are:

56 45 110 77 87 61 74 36

(a) Find the median of their lengths. [2]

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(b) Find the mean of their lengths. [3]

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(c) Find the range of their lengths. [1]

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- 7) (a) The table below shows the number of smoothies sold in a school café on 5 days in a particular week.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of smoothies sold	54	38	65	58	80

- (i) Find the median number of smoothies sold per day. [1]

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- (ii) Work out the mean number of smoothies sold per day. [3]

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- (iii) Work out the range of the number of smoothies sold per day. [1]

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- (b) Milkshakes are also sold in the school café.
In the same week, the mean number of milkshakes sold per day was the same as the mean number of smoothies sold per day.
The range of the number of milkshakes sold per day was 4.

Explain the meaning of the difference in values for the range of the daily sales of smoothies and milkshakes. [1]

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8)

The ages of 8 members of a chess club were:

28 15 60 39 47 31 24 32

(a) Find the median of their ages. [2]

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(b) Find the range of their ages. [1]

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(c) Find the mean of their ages. [3]

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(d) A new member, aged 31, joins the club.
What will happen to the mean age?
Tick (✓) the appropriate box. [2]

The mean will increase	
The mean will stay the same	
The mean will decrease	

Explain your choice.

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9)

Two groups of six people took part in a quiz.

(a) The six members of group A gained the following scores.

52 29 78 56 24 37

(i) Calculate the mean score per person. [3]

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(ii) What was the range of the scores gained? [1]

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(b) The scores gained by the six members of group B are summarised below.

Score	Number of people
22	2
25	2
26	1
28	1

(i) Without doing any further calculations, state which group had the larger mean score per person.
You must give a reason for your choice. [1]

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(ii) Which group had the larger range of scores?
You must give a reason for your choice. [1]

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- 10) The number of points scored by the Welsh rugby team in their 9 games during the 2014-2015 season were as follows:

28 17 16 12 16 26 20 23 61

- (a) Find the mode of the number of points scored. [1]

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- (b) Find the median number of points scored. [2]

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- (c) Find the mean number of points scored. [3]

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- 11) The ages of the members of a netball team were

42 17 20 27 23 33 20

- (a) Find the range of these ages [1]

- (d) Find the median of these ages.

- [2]
- (c) Find the mean of these ages.

[3]

12)

Last summer, Mr Williams had 10 tomato plants like the one shown below.



The number of tomatoes that grew on each plant is given below.

42 37 48 34 44 41 39 42 38 45

- (a) Calculate the mean number of tomatoes per plant. [3]

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- (b) Find the median number of tomatoes per plant. [2]

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- (c) What is the modal number of tomatoes per plant? [1]

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- (d) Next summer, Mr Williams plans to buy more tomato plants like the one above.

He says:

"On average, I should get about 41 tomatoes from each plant."

- Give a reason why his data shows he is correct. [1]

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- 13) The ages of the members of a chess team were:

25 49 62 18 53 37 71

(a) Find the median of these ages.

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[2]

(b) Find the mean of these ages.

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[3]

(c) Find the range of these ages.

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[1]

- 14) The ages (in years) of the 8 members of an evening class are as follows:

36 28 45 24 31 34 27 47

(a) (i) Find the range of the ages of the members of the class. [1]

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(ii) What was the range of their ages one year ago?
Give a reason for your answer. [2]

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(b) Find the mean age of the members of the class.

[3]

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- 15) Jim and Andy play for their local cricket team.
They scored the following runs in their last six matches.

Jim	42	71	39	62	70	40
Andy	115	6	84	36	10	85

(a) Calculate the mean of Andy's scores.

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Mean is

[3]

(b) Find the median of Jim's scores.

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[2]

16)

The populations of some villages were:

419 510 122 162 74 19 206 272

(a) Find the range of these populations.

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..... [1]

(b) Find the mean of these populations.

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..... [3]

(c) Find the median of these populations.

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17)

- (a) Jamal has five bags of carrots.
Each bag weighs a whole number of kilograms.
The median weight of these bags is 3 kg, the range of the weights is 4 kg and the modal weight is 5 kg.
What are the weights of the five bags of carrots? [3]

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The weights of the bags of carrots are:

.....kg kg kg kg kg

- (b) Jamal has a number of 3 kg bags of potatoes and a different number of 8 kg bags of potatoes.
The mean weight of the bags of potatoes is 6 kg.
What is the least number of 3 kg and 8 kg bags of potatoes that Jamal has? [2]

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Jamal has 3 kg bags and 8 kg bags