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| Surname | |
| Other Names | |
| Candidate's Signature | |

GCSE 9 - 1 Questions

Median

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.
- You should have a ruler, compass and protractor where required.

Total Marks :

- 1) 5 girls obtained the following marks in their Geography exam

42, 67, 75, 86, 93

What is their median mark ?

Answer[1]

- 2) The following are the ages of a group of athletes

15, 22, 18, 26, 20

What is their median age?

Answer[2]

- 3) In a small village in England in February last year, the temperatures were recorded as follows

- 7 , 4 , - 6 , 5 , - 3 , 0 , 3

What is their median temperature?

Answer[2]

4) Jamie's last six maths test results were as follows:

8, 5, 4, 8, 7, 10

What is his median result?

Answer[2]

5) The heights, in metres, of a group of teenagers who attend a club is shown below.

| | | | | |
|-----|-----|-----|-----|-----|
| 1.6 | 1.7 | 1.6 | 1.8 | 1.8 |
| 1.7 | 1.5 | 1.5 | 1.7 | 1.6 |

What is the median height?

Answer[2]

6) Consider the following set of numbers.

12 , 6 , 12 , 20 , 16 , 12 , 30 , 20

Work out:

a) The range

Answer[1]

b) The median

Answer[2]

7) Sophia conducted a survey in her street to know the number of pets per family.
The following are the results obtained:

3, 1, 2, 0, 1, 3, 2, 0, 1, 2, 2, 4

a) The range

Answer[1]

b) The median

Answer[2]

8) These are the marks for Ahmad's Arabic tests throughout the year.

| | | | | |
|----|----|----|----|----|
| 70 | 44 | 82 | 51 | 74 |
| 58 | 77 | 85 | 50 | 81 |

Work out

i. The range of the marks

Answer[2]

ii. The median of the marks

Answer[2]

9) On a particular winter day, the temperatures in some North European countries are:

-4°C 2°C 8°C -3°C -1°C

a) Arrange the above temperatures in order of size, starting from the **smallest**.

Ans: _____, _____, _____, _____, _____

b) Give the **median** temperature.

Ans: _____ $^{\circ}\text{C}$

c) Calculate the **range** of these temperatures.

Ans: _____ $^{\circ}\text{C}$

[5 marks]

10) One morning Ms Scerri weighed the schoolbag of each of 5 students:

| | | | | |
|----------|--------|-----------|----------|--------|
| 6.430 kg | 4990 g | 6 kg 60 g | 5.095 kg | 5000 g |
|----------|--------|-----------|----------|--------|

(a) Arrange these weights in order of size, smallest first.

| | | | | |
|--|--|--|--|--|
| | | | | |
|--|--|--|--|--|

(b) What is the **median** weight?

_____ (3 marks)

11) The heights, to the nearest centimetre, of 10 girls are:

159, 155, 153, 154, 157, 162, 152, 160, 161 and 154. Find:

(i) their **median** height

Ans: _____ cm

(ii) the **range** of their heights

Ans: _____ cm

(3 marks)

12) The table shows the number of coins that a group of friends have.

| Number of coins | Frequency |
|-----------------|-----------|
| 1 – 5 | 12 |
| 6 – 10 | 7 |
| 11 – 15 | 1 |

In which frequency group does the median lie?

Answer[2]

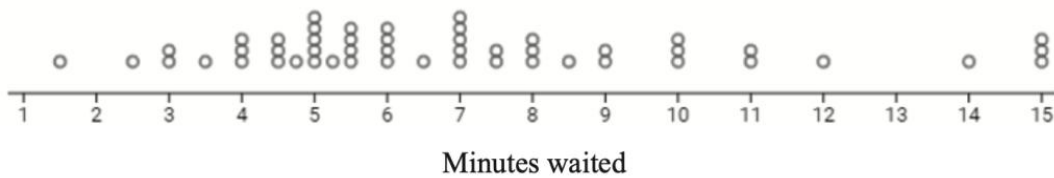
13) The table below shows the distribution of ages of a group of tourists.

| Age (A) in years | Frequency |
|------------------|-----------|
| $0 < A \leq 20$ | 38 |
| $20 < A \leq 40$ | 72 |
| $40 < A \leq 60$ | 75 |
| $60 < A \leq 80$ | 15 |

In which frequency group does the median lie?

Answer[2]

14) A survey for a GoSlow taxis asked their customers how long they had waited before their taxi had arrived. This was recorded on the graph below

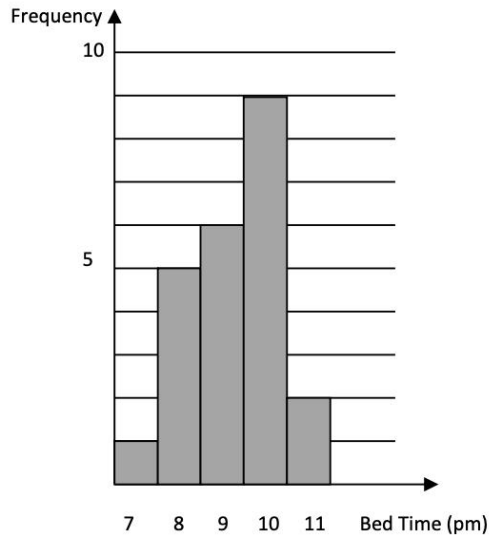


What is the median number of minutes that GoSlow passengers had to wait?

Answer[3]

15) A class of students were asked at what time they go to bed. The results are shown in a bar chart below

a) What is the least common time for going to bed?



Answer[1]

b) What is the range ?

Answer[1]

c) Put the bedtimes of all the students in order. The first few have been done for you.

| | | | | | | | |
|------|------|------|------|--|--|--|--|
| 7 pm | 8 pm | 8 pm | 8 pm | | | | |
| | | | | | | | |
| | | | | | | | |

[1]

d) What is the median ?

Answer[2]

16) The following are the marks obtained by some students for their Physics homework:

| | | | | |
|---|---|---|---|---|
| 9 | 8 | 7 | 3 | 5 |
| 6 | 7 | 6 | 5 | 6 |
| 5 | 8 | 4 | 6 | 3 |

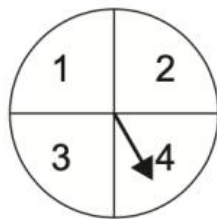
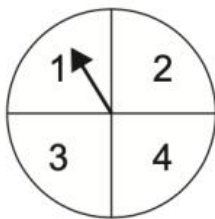
a) Fill in the frequency table:

| | | | | | | | |
|-----------------|---|---|---|---|---|---|---|
| Mark | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| No. of students | | | | | | | |

b) What is the median mark?

(4 marks)

17) Jade has a game where she spins two spinners and add the scores. She then records the score on a table.



| | | | | | |
|-----------|---|-----------|---|---|---|
| | | Spinner 1 | | | |
| | | + | 1 | 2 | 3 |
| Spinner 2 | 1 | | | | |
| | 2 | | | | |
| | 3 | | | | |
| | 4 | 5 | | | |

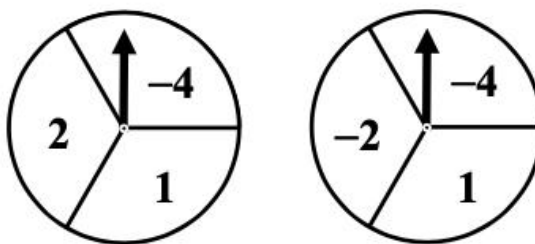
b) Fill in the table above with all the possible results.

[2]

c) What is the median score?

Answer.....[2]

18) The spinners below are spun together and the two numbers are then **multiplied**.



a) Fill in the possibility space to show all the possible scores.

| | | First Spinner | | |
|----------------|----|---------------|----|----|
| | | -4 | 1 | 2 |
| Second Spinner | × | -4 | 1 | 2 |
| | -4 | 16 | -4 | |
| | -2 | | -2 | -4 |
| | 1 | -4 | 1 | |

b) What is the range of the scores?

Answer.....[2]

c) What is the median score?

Answer.....[2]

- 19) *Worthy* Supermarket and *Priceless* Supermarket both employ 8 cashiers. The annual salary of each cashier is given in the tables below:

| Annual salaries at <i>Worthy</i> Supermarket, in € | | | | | | | |
|--|------|------|------|------|------|------|------|
| 7600 | 8000 | 8200 | 8500 | 8600 | 8700 | 9000 | 9000 |

| Annual salaries at <i>Priceless</i> Supermarket, in € | | | | | | | |
|---|------|------|------|------|------|------|------|
| 7300 | 7500 | 7600 | 8600 | 8600 | 8800 | 9200 | 9600 |

- a) Use the information given above to fill in the following tables:

| <i>Worthy</i> Supermarket | |
|---------------------------|--------|
| Mean | Median |
| €8450 | |

| <i>Priceless</i> Supermarket | |
|------------------------------|--------|
| Mean | Median |
| €8400 | |

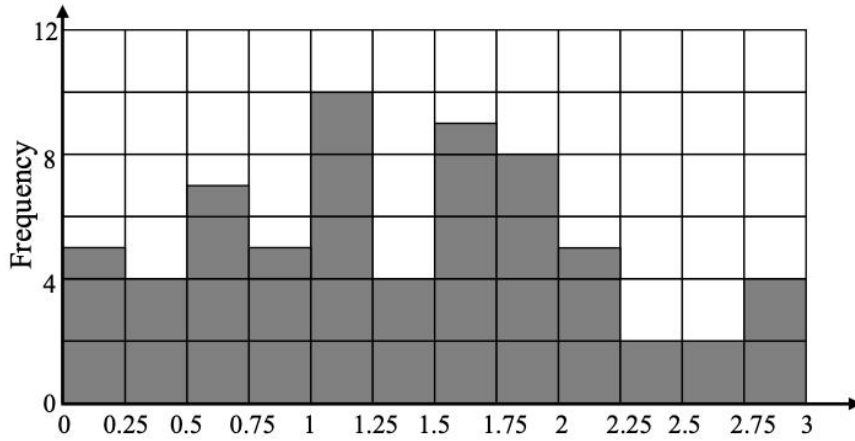
- b) Which supermarket gives a better salary? Give a reason for your answer by comparing your results in part (a).

Supermarket: _____

Reason: _____

(5 marks)

20) The frequency chart shows some raw data that has been grouped.

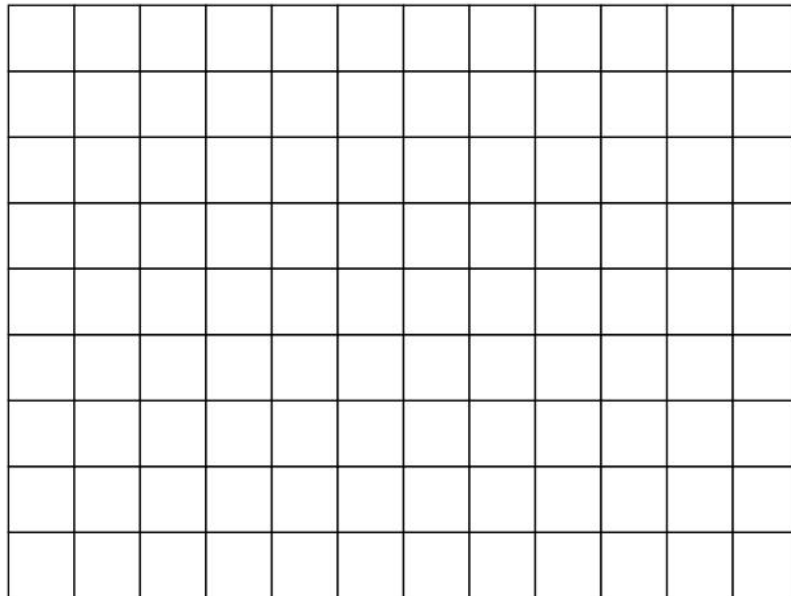


b) Which is the class interval in which the median lies ?

Answer[2]

c) Draw another frequency chart for **the same raw data** using the following class intervals:

0 – 0.5 , 0.5 – 1 , 1 – 1.5 , 1.5 – 2 , 2 – 2.5 and 2.5 – 3



[3]

d) Using the new graph, write down the median **class interval**?

Answer[2]