THIRD SPACE LEARNING

GCSE Exam Questions

Averages from a Frequency Table | Statistics

GCSE Exam Questions: Averages from a Frequency Table

1) The frequency table shows the number of siblings of 25 students.

Number of siblings	Frequency
0	9
1	7
2	5
3	3
4	1

(a) Write down the mode.

(1)

(b) Find the median.

(1)

(c) Calculate the mean.

(2)

(4 marks)

2) The grouped frequency table shows the number of passengers on 100 trains.

Number of passengers, x	Frequency
$0 \leq x < 20$	12
$20 \leq x < 40$	17
$40 \leq x < 60$	26
$60 \leq x < 80$	29
$80 \leq x < 100$	16

(a) Write down the modal class.

(1)

(b) Estimate the mean.

(3)

(4 marks)

GCSE Exam Questions: Averages from a Frequency Table

3) The frequency table shows the number of people in 39 swimming sessions at the local swimming pool.

Number of people, x	Frequency
$x < 15$	0
$15 \leq x < 20$	2
$20 \leq x < 25$	15
$25 \leq x < 30$	13
$30 \leq x < 35$	9

(a) Write down the modal class interval.

(1)

(b) Find the class interval containing the median.

(1)

(c) Estimate the mean. Give your answer to 1 decimal place.

(4)

(6 marks)

GCSE Exam Questions: Averages from a Frequency Table Answers

	Question	Answer	Marks
1) (a)	The frequency table shows the number of siblings of 25 students. **Number of siblings** / **Frequency** 0 / 9 1 / 7 2 / 5 3 / 3 4 / 1 Write down the mode:	**(a)** Mode = 0	**(1)**
(b)	Find the median:	**(b)** Median = 1	**(1)**
(c)	Calculate the mean:	**(c)** $\frac{(0 \times 9) + (1 \times 7) + (2 \times 5) + (3 \times 3) + (4 \times 1)}{25}$ Mean = 1.2	**(1)** **(1)**
2) (a)	The grouped frequency table shows the number of passengers on 100 trains. **Number of passengers, x** / **Frequency** $0 \leq x < 20$ / 12 $20 \leq x < 40$ / 17 $40 \leq x < 60$ / 26 $60 \leq x < 80$ / 29 $80 \leq x < 100$ / 16 Write down the modal class:	**(a)** $60 \leq x < 80$	**(1)**
(b)	Estimate the mean:	**(b)** Midpoints 10, 30, 50, 70, 90 $\frac{(12 \times 10) + (17 \times 30) + (26 \times 50) + (29 \times 70) + (16 \times 90)}{100}$ = 54	**(1)** **(1)** **(1)**

GCSE Exam Questions: Averages from a Frequency Table Answers

	Question	Answer	Marks
3) (a)	The frequency table shows the number of people in 39 swimming sessions at the local swimming pool. **Number of people, x** / **Frequency** $x < 15$ / 0 $15 \leq x < 20$ / 2 $20 \leq x < 25$ / 15 $25 \leq x < 30$ / 13 $30 \leq x < 35$ / 9 Write down the modal class interval:	**(a)** $20 \leq x < 25$	**(1)**
(b)	Find the class interval containing the median:	**(b)** 20^{th} item $25 \leq x < 30$	**(1)**
(c)	Estimate the mean: Give your answer to 1 decimal place.	**(c)** Midpoints - 17.5, 22.5, 27.5, 32.5 $(2 \times 17.5) + (15 \times 22.5)$ $+ (13 \times 27.5) + (9 \times 32.5)$ $1022.5 \div 39$ $= 26.21794872...$ $= 26.2\ (1dp)$	**(1)** **(1)** **(1)** **(1)**

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