THIRD SPACE LEARNING

GCSE Exam Questions

Mean from a Frequency Table | Statistics

GCSE Exam Questions: Mean from a Frequency Table

1) Lewis dug up 20 carrots and wrote down their lengths to the nearest cm.

Here are his results:

5, 6, 5, 2, 4, 5, 8, 7, 5, 6
7, 6, 4, 3, 5, 7, 6, 4, 8, 5

(a) Complete the frequency table to show Lewis's results.

Length in cm	Tally	Frequency
2		
3		
4		
5		
6		
7		
8		

(2)

(b) Work out the mean length.

.....cm

(3)

(5 marks)

GCSE Exam Questions: Mean from a Frequency Table

2) The table shows information about the number of hours 40 children played computer games in one evening.

Number of hours (h)	Frequency
$0 \leq h < 1$	3
$1 \leq h < 2$	8
$2 \leq h < 3$	7
$3 \leq h < 4$	10
$4 \leq h < 5$	12

(a) Work out an estimate for the mean number of hours.

..... hours

(3)

(b) Why is your answer to part (a) an estimate?

(1)

(4 marks)

GCSE Exam Questions: Mean from a Frequency Table

3) The star rating, from 1 to 5, of restaurants in a city are shown in the table below:

Star Rating	Frequency
1	4
2	17
3	23
4	x
5	18

The mean star rating of a restaurant in the city is 3.575.

Calculate the value of the missing frequency, x.

(4 marks)

GCSE Exam Questions: Mean from a Frequency Table Answers

	Question	Answer	Marks
1)	Lewis dug up 20 carrots and wrote down their lengths to the nearest cm. Here are his results. 5, 6, 5, 2, 4, 5, 8, 7, 5, 6 7, 6, 4, 3, 5, 7, 6, 4, 8, 5		
(a)	Complete the frequency table to show Lewis's results. Length in cm / Tally / Frequency 2 3 4 5 6 7 8	**(a)** Correct tally column Correct frequency column Length in cm / Tally / Frequency 2 / | / 1 3 / | / 1 4 / ||| / 3 5 / 𝍸 | / 6 6 / |||| / 4 7 / ||| / 3 8 / || / 2	**(1)** **(1)**
(b)	Work out the mean length.	**(b)** $(2 \times 1) + (3 \times 1) + (4 \times 3) + (5 \times 6) + (6 \times 4) + (7 \times 3) + (8 \times 2) = 108$ $108 \div 20$ $5.4cm$	**(1)** **(1)** **(1)**
2)	The table shows information about the number of hours 40 children played computer games in one evening. Number of hours (h) / Frequency $0 \leq h < 1$ / 3 $1 \leq h < 2$ / 8 $2 \leq h < 3$ / 7 $3 \leq h < 4$ / 10 $4 \leq h < 5$ / 12		
(a)	Work out an estimate for the mean number of hours.	**(a)** $(0.5 \times 3) + (1.5 \times 8) + (2.5 \times 7) + (3.5 \times 10) + (4.5 \times 12) = 120$ $120 \div 40$ 3 hours	**(1)** **(1)** **(1)**
(b)	Why is your answer to part (a) an estimate?	**(b)** It is grouped data, not exact values.	**(1)**

GCSE Exam Questions: Mean from a Frequency Table Answers

	Question	Answer	Marks
3)	The star rating, from 1 to 5, of restaurants in a city are shown in the table below. **Star Rating** / **Frequency** 1 / 4 2 / 17 3 / 23 4 / x 5 / 18 The mean star rating of a restaurant in the city is 3.575. Calculate the value of the missing frequency, x	$\frac{197 + 4x}{62 + x} = 3.575$ **(1)** $4x + 197 = 3.575(62 + x)$ **(1)** $0.425x = 24.65$ **(1)** $x = 58$ **(1)**	

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