

Averages from Frequency Tables

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NAME _____

DATE _____

- 1 Isla records the number of visitors entering a museum each hour for 24 hours. Here are the results.  EITHER PAPER 2 MARKS

39, 46, 5, 30, 32, 7, 23, 17, 48, 57, 19, 14, 18, 46, 35, 7, 38, 6, 42, 9, 46, 41, 45, 5

Isla makes this tally and frequency chart to put the data into groups.

Number of visitors	Tally	Frequency
0 to 10		
10 to 20		
20 to 30		
30 to 40		
40 to 50		

Make two criticisms of Isla's tally and frequency chart. You do not need to complete the chart.

- 2 The table shows information about the weights of the sacks of potatoes on a trailer.  EITHER PAPER 3 MARKS

Weight	Number of sacks
20 kg	3
30 kg	2
40 kg	5
50 kg	4
60 kg	4
70 kg	2

Show that the total weight of the sacks of potatoes on the trailer is less than 950 kg.

- 3 The table shows the number of goals scored by a football team in each of 25 matches.  EITHER PAPER 3 MARKS

Number of goals	Frequency
0	2
1	7
2	6
3	2
4	8
Total	25

Work out the mean number of goals.

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- 4 The table shows the number of cars owned by each household on a street.  EITHER PAPER 4 MARKS

Number of cars	Frequency
0	3
1	5
2	5
3	2
4	8

- (a) How many households are there altogether?
- (b) Write down the modal number of cars.
- (c) Work out the median number of cars.
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- 5 The grouped frequency table shows how long each person waited at a clinic. EITHER PAPER 3 MARKS

Time in minutes (t)	Frequency
$0 < t \leq 10$	5
$10 < t \leq 20$	4
$20 < t \leq 30$	4
$30 < t \leq 40$	11
$40 < t \leq 50$	3

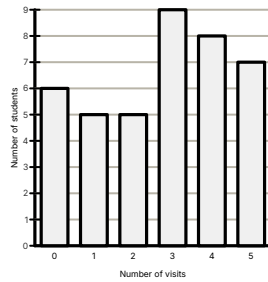
- (a) State the modal class.
(b) Write down the class that contains the median.

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- 6 16 matches were played. Here are the numbers of goals scored in them. EITHER PAPER 5 MARKS

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

- (a) Draw a frequency table for this data, using the values 0, 1, 2 and 3.
(b) Write down the mode.
(c) Calculate the mean number of goals. Give your answer correct to 1 decimal place.
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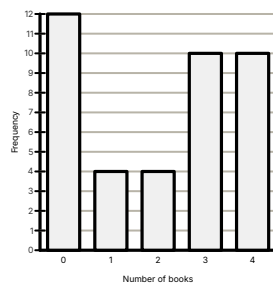
- 7 Each student in a year group was asked how many times they visited a gym last week. The bar chart shows the results. EITHER PAPER 5 MARKS



- (a) How many students made more than 1 visit to the gym?
(b) Work out the mean number of visits to the gym. Give your answer as a decimal.
(c) One of the students is chosen at random.

Work out the probability that the student made fewer than 4 visits to the gym. Give your answer as a fraction in its simplest form.

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- 8 The bar chart shows the number of books borrowed from a library by each of 40 members last month. EITHER PAPER 3 MARKS



Work out the mean number of books. Give your answer as a decimal.

- 9 The table shows the height of each of 50 sunflower seedlings in a greenhouse.

 EITHER PAPER 3 MARKS

Height, h (cm)	Frequency	Midpoint
$4.5 \leq h < 5.0$	18	
$5.0 \leq h < 5.5$	17	
$5.5 \leq h < 6.0$	15	
Total	50	

Work out an estimate of the mean height of a seedling.

Give your answer as a decimal.

- 10 The table shows the distance cycled by each of 25 members of a cycling club last week.

 EITHER PAPER 4 MARKS

Distance (d km)	Frequency
$0 < d \leq 10$	6
$10 < d \leq 20$	7
$20 < d \leq 30$	4
$30 < d \leq 40$	8
Total	25

Work out an estimate for the mean.

1	Either order. (1) There is no group for values above 50, but 57 is in the data. (2) the groups overlap: 30 could go in either "20 to 30" or "30 to 40".	2	Total weight 900 kg, which is less than 950 kg
3	2.28	4	(a) 23 (b) 4 (c) 2
5	(a) $30 < t \leq 40$ (b) $30 < t \leq 40$	6	(a) frequencies 9, 2, 3, 2 for 0, 1, 2, 3 (b) 0 (c) 0.9
7	(a) 29 (b) 2.725 (c) $\frac{5}{8}$	8	2.05
9	5.22 cm	10	20.6 km