JRA Tutors
Private tuition and small online Study Pods

Averages from Frequency Tables

Grade 4 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (45 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 67 marks.

Warm-up

1 The table shows the number of pets owned by some students. How many students are there altogether? **[2 marks]**

nber of	0	1	2	3	4	5
Frequenc	6	5	5	6	6	6

Answer _____

2 Write down the mode. **[2 marks]**

nber of	1	2	3	4	5
Frequenc	7	12	11	6	3

Answer _____

3 Write down the range of the number of pets. **[2 marks]**

Number of	0	1	2	3	4	5
Frequenc	10	11	10	7	5	6

Answer _____

4 How many students own more than 2 pets? **[2 marks]**

Number of	1	2	3	4	5
Frequenc	12	3	2	11	9

Answer _____

5 How many pets are owned altogether? **[2 marks]**

Number of	0	1	2	3	4	5
Frequenc	6	7	7	4	10	3

Answer _____

Core

6 Work out the mean number of pets. Give your answer to 2 decimal places. **[3 marks]**

nber of	1	2	3	4	5
Frequenc	4	5	11	2	4

Answer _____

7 Work out the median number of pets. **[3 marks]**

nber of	0	1	2	3	4	5
Frequen	7	4	9	11	5	10

Answer _____

8 What fraction of the students own exactly 2 pets? Give your answer in simplest form. **[3 marks]**

nber of	1	2	3	4	5
Frequenc	12	6	8	5	11

Answer _____

9 What percentage of the students own no more than 1 pet? Give your answer to 1 decimal place. **[3 marks]**

nber of	0	1	2	3	4	5
Frequenc	3	12	7	12	10	5

Answer _____

10 Work out the mean. Give your answer to 1 decimal place. **[3 marks]**

nber of	1	2	3	4	5
Frequenc	7	10	6	3	9

Answer _____

Stretch

11 Work out the mean number of pets. Give your answer to 2 decimal places. **[4 marks]**

nber of	0	1	2	3	4	5
Frequen	9	7	7	6	6	6

Answer _____

12 One more student with 5 pets is added. Work out the new mean to 2 decimal places. **[4 marks]**

nber of	1	2	3	4	5
Frequenc	9	3	11	4	8

Answer _____

13 Find the median number of pets. **[4 marks]**

nber of	0	1	2	3	4	5
Frequen	5	8	10	9	5	11

Answer _____

14 Work out the mean, median and mode. **[4 marks]**

nber of	1	2	3	4	5
Frequenc	8	2	4	2	8

Answer _____

15 A student with 0 pets leaves. Work out the new mean to 2 decimal places. **[4 marks]**

nber of	0	1	2	3	4	5
Frequen	8	10	7	5	4	9

Answer _____

Challenge

16 Work out an estimate of the mean time for the grouped data. Give your answer to 1 decimal place. **[5 marks]**

ime (t mi	0-10	10-20	20-40	40-60
Frequency	5	13	7	3

Answer _____

17 Write down the modal class. **[3 marks]**

ime (t mir	0-10	10-20	20-40	40-60
Frequency	9	6	10	11

Answer _____

18 In which class does the median lie? **[4 marks]**

ime (t mir	0-10	10-20	20-40	40-60
Frequency	11	8	6	8

Answer _____

19 Work out an estimate of the mean. Give your answer to the nearest whole number. **[5 marks]**

ime (t mir	0-10	10-20	20-40	40-60
Frequency	11	13	3	10

Answer _____

20 Explain why the mean from grouped data is only an estimate, and work out the greatest possible total of all the times. **[5 marks]**

ime (t mir	0-10	10-20	20-40	40-60
Frequency	10	15	9	15

Answer _____