

Name:

Date:

Averages from Frequency Tables

GCSE

Edexcel
Mathematics
Grade (9-1)

Mark

Score (%)

— 80

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 The number of pizzas Anne ate during the 2002 is given below:

Number of Pizzas	Number of months
8	4
10	2
12	4
14	1
16	1

Find the mean number of pizzas Anne ate in 2002.

..... pizzas
(Total for question 1 is 4 marks)

2 The number of pens owned by each student in a class of 23 students is shown below:

Number of pens	Number of students
0	1
1	8
2	10
3	3
4	1

Find the mean number of pens owned by students in the class.

..... pens
(Total for question 2 is 4 marks)

- 3 The number of goals scored by Lily for her school football team in 20 games are shown below:

Number of goals	Frequency
0	3
1	8
2	8
3	1

Find the mean number of goals scored by Lily for her school team.

..... goals

(Total for question 3 is 4 marks)

- 4 The number of countries travelled by students in Shinhwa High School are shown below:

Number of countries	Number of students
0	112
1	345
2	236
3	99
4	56
5	8

Find the mean number of countries travelled by students in Shinhwa High School.

..... countries

(Total for question 4 is 4 marks)

5 The number of vegetables in 20 dishes on a restaurant are shown below:

Number of vegetables	Number of dishes
0	2
1	3
2	6
3	4
4	5

Find the mean number of vegetables in the dishes in the restaurant.

..... vegetables
(Total for question 5 is 4 marks)

6 James works part-time at Pizza Place during summer break. The number of pizzas he delivered each day are shown below.

Number of Pizzas	Number of days
0	5
1	3
2	6
3	x
4	5
5	5

Find x , given that the mean number of pizzas delivered by James during summer break is 2.5.

..... days
(Total for question 6 is 5 marks)

- 7 Ali carries out a survey to find the mean number of books read in one month by students in 8th grade of a school.
The number of books read in one month by students in 8th grade are shown below.

Number of books	Number of students
0	4
1	10
2	6
3	2
4	

Ali accidentally loses the data on number of students who read 4 books.
He knows that the mean number of books read by the students is 1.6.
Use this information to find the total number of books read by the students.

..... books

(Total for question 7 is 5 marks)

- 8 The number of dramas Liz watched each month during an year are shown below.

Number of dramas	Frequency
0	1
1	2
2	4
3	3
4	2

- (a) Work out the total number of dramas Liz watched.

..... dramas
(2)

- (b) Find the mean number of dramas Liz watched each month.

..... dramas
(2)

(Total for question 8 is 4 marks)

9 Sam owns a bakery.
He records the number of apple pies sold during a month.
The data is shown below.

Number of apple pies	Number of days
0	1
1	10
2	6
3	5
4	4
5	3
6	2

(a) Work out the total number of pies sold during the month.

..... pies
(2)

(b) Work out the mean number of pies sold per day during the month.

..... pies
(2)

(Total for question 9 is 4 marks)

10 Dean counts the number of people in cars that cross a check post.
The data is shown below.

Number of people	Number of cars
1	3
2	3
3	x
4	2
5	1

Dean forgets to record the number of cars with 3 people.
The mean number of people per car were 2.5.

Work out the value of x .

..... cars

(Total for question 10 is 5 marks)

11 The mobile phones per house in a colony are shown below.

Number of mobile phones	Frequency
0	1
1	7
2	13
3	20
4	35

Work out the median number of mobile phones per house in the colony.

..... phones

(Total for question 11 is 4 marks)

12 The number of movies Liz watched each month during an year are shown below.

Number of movies	Frequency
0	1
1	2
2	2
3	4
4	3

Write down the mode.

..... movies

(Total for question 12 is 2 marks)

13 The number of goals scored by Danny for his college football team in 20 games are shown below:

Number of goals	Frequency
0	2
1	9
2	5
3	4

Find the median number of goals scored by Danny for his college team.

..... goals
(Total for question 13 is 4 marks)

14 The ages of students in 9th grade are recorded.

Age	Number of students
13	1
14	8
15	15
16	2

(a) Work out the median age of students in 9th grade.

..... years
(4)

(b) Write down the mode.

..... years
(1)

(Total for question 14 is 5 marks)

15 The number of pencils owned by each student in a class is shown below:

Number of pens	Number of students
0	2
1	12
2	10
3	4
4	2

Find the median number of pens owned by students in the class.

..... pens
(Total for question 15 is 4 marks)

16 The table summarises the distances, dm, that 80 women threw the javelin

Distance (dm)	Frequency
$20 < d \leq 25$	6
$25 < d \leq 30$	16
$30 < d \leq 35$	25
$35 < d \leq 40$	18
$40 < d \leq 45$	13
$45 < d \leq 50$	2

Calculate an estimate of the mean distance the javelin was thrown.

..... m
(Total for question 16 is 5 marks)

17 Jenny asked 60 people how many movies they had each watched in the last month. The table summarises her results.

Number of movies	0	1	2	3	4	5	6
Frequency	p	14	15	7	q	5	2

The mean number of movies watched is 2.3 .

Find the value of p and the value of q .

p :

q :

(Total for question 17 is 4 marks)

18 80 people were each asked how much they spent on clothes last month. The results are summarised in the table below.

Amount spent (\$ c)	Frequency
$0 < c \leq 20$	3
$20 < c \leq 40$	8
$40 < c \leq 60$	14
$60 < c \leq 80$	21
$80 < c \leq 100$	18
$100 < c \leq 120$	9
$120 < c \leq 140$	5
$140 < c \leq 160$	2

(a) Write down the modal class.

.....

(2)

(b) Estimate the mean amount spent on clothes last month.

\$.....

(3)

(Total for question 18 is 5 marks)

19 The table below summarises the times taken by 50 athletes to run 400m.

Time (t seconds)	$50 \leq t < 55$	$55 \leq t < 60$	$60 \leq t < 65$	$65 \leq t < 70$	$70 \leq t < 75$
Frequency	7	16	15	11	1

(a) State the modal class.

.....
(1)

(b) Calculate an estimate of the mean time taken by these athletes.

..... seconds
(3)

(Total for question 19 is 4 marks)

20 Steven asked 25 women how many children they have.

The results are summarised in the table below.

Number of children	Frequency
0	7
1	5
2	6
3	4
4	3

Find

(a) the mean,

.....
(3)

(b) the median,

.....
(2)

(c) the mode.

.....
(1)

(Total for question 20 is 6 marks)