Name: SOLUTIONS

GCSE (1 - 9)

Averages from a Table

Buy me a coffee

Solutions by
Kenneth Stafford
MATHS TUTOR
ken@kennethstafford.co.uk

These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
The ***most current*** version of these worksheets will always be available at: kennethstafford.co.uk

Question	Where the question appeared
1	Edexcel, GCSE, Autumn 2017, Paper 1F, Q27
2	Edexcel, GCSE, Autumn 2019, Paper 3F, Q25
3	Edexcel, GCSE, Autumn 2020, Paper 1F, Q16
4	Edexcel, GCSE, Summer 2022, Paper 1H, Q8
5	Edexcel, GCSE, Summer 2023, Paper 2F, Q11
6	Edexcel, GCSE, November 2022, Paper 2F, Q17
7	Edexcel, GCSE, Summer 2022, Paper 2F, Q15

1

The table shows information about the weekly earnings of 20 people who work in a shop.

Weekly earnings (£x)	Frequency
$150 < x \leqslant 250$	1
$250 < x \leqslant 350$	11
$350 < x \leqslant 450$	5
$450 < x \leqslant 550$	0
$550 < x \leqslant 650$	3

x 200 = 200
x 300 = 3300
x 400 = 2000
x 500 = 0
x 600 = 1800
7300

(a) Work out an estimate for the mean of the weekly earnings.

7300 ÷ 20 = 365

£ 365

(3)

Nadiya says,

"The mean may **not** be the best average to use to represent this information."

(b) Do you agree with Nadiya?
You must justify your answer.

Yes. Mode might be better. Most people earn £250 to £350.

(1)

(Total for Question 27 is 4 marks)

[Edexcel, GCSE, Autumn 2017, Paper 1F, Q27]

2

The table gives information about the times taken, in seconds, by 18 students to run a race.

Time (t seconds)	Frequency
$5 < t \leqslant 10$	1
$10 < t \leqslant 15$	2
$15 < t \leqslant 20$	7
$20 < t \leqslant 25$	8

$\times 7.5 = 7.5$

$\times 12.5 = 25$

$\times 17.5 = 122.5$

$\times 22.5 = 180$

335

Work out an estimate for the mean time.
Give your answer correct to 3 significant figures.

$335 \div 18 = 18.61$

18.6 ..... seconds

(Total for Question 25 is 3 marks)

[Edexcel, GCSE, Autumn 2019, Paper 3F, Q25]

3

The table gives information about the number of points scored by each of 16 students in a game.

Number of points	Frequency
0	1
1	3
2	5
3	4
4	3

Tina worked out the median of the number of points scored to be 5

(a) Explain why it is **not** possible for the median to be 5

The most points scored in any game was 4 points.
So the median can't be 5.

(1)

Tina also worked out the total number of points scored by the 16 students in the game.
Here is her working.

$(0 \times 1) + (1 \times 3) + (2 \times 5) + (3 \times 4) + (4 \times 3) = 1 + 3 + 10 + 12 + 12 = 38$

Tina made a mistake in her working to find the total number of points scored.

(b) Describe the mistake that Tina made.

0 x 1 = 0 not 1.

(1)

(Total for Question 16 is 2 marks)

[Edexcel, GCSE, Autumn 2020, Paper 1F, Q16]

4

The table shows the amount of snow, in cm, that fell each day for 30 days.

Amount of snow (s cm)	Frequency
$0 \leqslant s < 10$	8
$10 \leqslant s < 20$	10
$20 \leqslant s < 30$	7
$30 \leqslant s < 40$	2
$40 \leqslant s < 50$	3

x5 = 40
x15 = 150
x 25 = 175
x 35 = 70
x45 = 135

570 ÷ 30 = 19

Work out an estimate for the mean amount of snow per day.

..... cm

(Total for Question 8 is 3 marks)

[Edexcel, GCSE, Summer 2022, Paper 1H, Q8]

5

The table shows information about the weights of the people in a hotel lift.

Weight	Number of people
40 kg	1
50 kg	2
60 kg	4
70 kg	5
80 kg	3
90 kg	1

x 40 = 40
x 50 = 100
x 60 = 240
x 70 = 350
x 80 = 240
x 1 = 90

1060

Show that the total weight of the people in the lift is less than 1200 kg.

1060 < 1200

(Total for Question 11 is 3 marks)

[Edexcel, GCSE, Summer 2023, Paper 2F, Q11]

6

The table shows information about the heights of 80 teenagers.

Height (h cm)	Frequency
$150 < h \leqslant 160$	8
$160 < h \leqslant 170$	14
$170 < h \leqslant 180$	24
$180 < h \leqslant 190$	30
$190 < h \leqslant 200$	4

x 155 = 1240
x 165 = 2310
x 175 = 4200
x 185 = 5550
x 195 = 780
14080

Work out an estimate for the mean height of the teenagers.

14080 ÷ 80 = 176 cm

(Total for Question 17 is 3 marks)

[Edexcel, GCSE, November 2022, Paper 2F, Q17]

7

The table shows information about the number of social media accounts used by each of 300 students.

cumulative

	Number of social media accounts	Frequency	
3	0	3 x 0	= 0
60	1	57 x 1	= 57
144	2	84 x 2	= 168
median → 219	3	75 x 3	= 225
300	4	81 x 4	= 324
			774

(a) Work out the total number of social media accounts used by these students.

774

(2)

(b) Find the median number of social media accounts used by these students.

median = 150th student

3

(2)

(Total for Question 15 is 4 marks)

[Edexcel, GCSE, Summer 2022, Paper 2F, Q15]