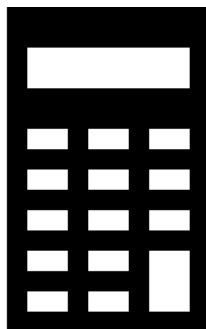AQA, OCR, Edexcel

GCSE

GCSE Maths

Frequency Tables

Name:

Guidance

1. Read each question carefully.
2. Don't spend too long on each question.
3. Attempt every question.
4. Always show your workings.

Revise GCSE Maths:
www.MathsMadeEasy.co.uk/gcse-maths-revision/

1. A class of 40 students measure their shoe sizes and summarise this information in a frequency table.

Shoe Size	Frequency
3	4
4	7
5	15
6	12
7	2

What is the modal shoe size?

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What is the median shoe size?

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Calculate the mean shoe size for the class.

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(4 marks)

2. Data on the heights of 12 students has been collected.

150cm, 136cm, 142cm, 155cm, 160cm, 163cm
145cm, 139cm, 137cm, 154cm, 147cm, 149cm

Summarise the data in the grouped frequency table below.

Heights (cm)	Frequency
$130 < h \leq 140$	
$140 < h \leq 150$	
$150 < h \leq 160$	
$160 < h \leq 170$	

What is the modal group?

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In what group does the median lie?

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(2 marks, 1 mark, 1 mark)

3. Data has been collected on the time it takes 50 students to get to school each day. This has been summarised in the grouped frequency table below.

Time taken (mins)	Frequency
$0 < t \leq 10$	5
$10 < t \leq 20$	23
$20 < t \leq 30$	15
$30 < t \leq 40$	7

Calculate an estimate for the mean time taken to get to school.

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Why is your answer an estimate?

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(2 marks, 1 mark)

4. A class of 35 students were asked how many extra toppings they like to have on pizza.
   The data has been summarised in the frequency table below.

Extra toppings	Frequency
0	2
1	4
2	17
3	10
4	2

Calculate the average number of extra toppings taken.

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There are 920 students in the school.
Calculate an estimate for the number of students in the school who choose exactly one extra topping.

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Give two assumptions that must be true for this to be a reliable estimate.

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(2 marks,1 mark, 2 marks)

5. The number of pairs of shoes owned by a class of 40 students has been collected and summarised in the frequency table below.
However, some of the data has been lost.

Pairs of shoes	Frequency
1	
2	12
3	
4	8
5	3

The mean of the data is 2.9.

Use this information to determine the missing frequencies in the table.

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(3 marks)

6. Data on the time taken for 90 students to complete a 200m race has been summarised in the grouped frequency table below.

Time taken (seconds)	Frequency
$23 < t \leq 24$	18
$24 < t \leq 25$	19
$25 < t \leq 26$	17
$26 < t \leq 27$	20
$27 < t \leq 28$	16

Why is the mode an inappropriate measure of the average in this case?

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Discuss an improvement that could have been made when creating this grouped frequency table.

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(1 mark, 2 marks)

7. Ben and Jane both collected data on the English marks for two year 9 classes. Their data and summary statistics have been summarised below.

Ben	
Score (%)	Frequency
$0 < x \leq 10$	1
$10 < x \leq 20$	4
$20 < x \leq 50$	12
$50 < x \leq 70$	15
$70 < x \leq 90$	6
$90 < x \leq 100$	2

Estimated Mean	51.38

Jane	
Score (%)	Frequency
$0 < x \leq 20$	5
$20 < x \leq 40$	3
$40 < x \leq 50$	1
$50 < x \leq 70$	11
$70 < x \leq 90$	6
$90 < x \leq 100$	4

Estimated Mean	55.17

Combine Ben and Jane's data in a single grouped frequency table.

Score (%)	Frequency

Calculate a new estimate for the mean based on their combined data.

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State one benefit and one drawback of combining the data in this way.

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(3 marks, 2 marks, 2 marks)