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GCSE (9-1) Grade 4 Averages from Frequency Tables

Unfinished. Please support to inspire me on.

Instructions

Use **black** ink or ball-point pen.
Fill in the boxes at the top of this page with your name.
Answer **all** questions.
Answer the questions in the spaces provided
- there may be more space than you need.

Show all your working out

Information

The marks for **each** question are shown in brackets.
Use this as a guide as to how much time to spend on each question.
Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed

Advice

Read each question carefully before you start to answer it
Attempt every question
Check your answers if you have time at the end

1. Amanda collected 20 leaves and wrote down their lengths, in cm.

Here are her results.



(a) Complete the frequency table to show Amanda's results.

Length in cm	Tally	Frequency
2	1	1
3	1	1
4	1111	4
5	𝍸 1	6
6	111	3
7	111	3
8	11	2

(2)

(b) Write down the modal length 5 .....cm **(1)**

(c) Work out the range. 8-2 = 6 .....cm **(1)**

(4 marks)

2. Rosie had 10 boxes of drawing pins.

She counted the number of drawing pins in each box.

The table gives information about her results.

Number of drawing pins	Frequency	
29	2	
30	5	
31	2	
32	1	

Work out the mean number of drawing pins in a box.

.....

(3 marks)

3. Andy did a survey of the number of cups of coffee some pupils in his school had drunk yesterday.

The frequency table shows his results.

Number of cups of coffee	Frequency
2	1
3	3
4	5
5	8
6	5

(a) Work out the number of pupils that Andy asked. .....

(2)

(b) Work out the mean number of cups of coffee drunk. .....

(3)

(5 marks)

4. 20 students scored goals for the school hockey team last month.
The table gives information about the number of goals they scored.

Goals scored	Number of students	
1	9	
2	3	
3	5	
4	3	

(a) Write down the modal number of goals scored.

.....

(1)

(b) Work out the range of the number of goals scored.

.....

(1)

(c) Work out the mean number of goals scored.

.....

(3)

(5 marks)

5. Bob asked each of 40 friends how many minutes they took to get to work.

The table shows some information about his results.

Time taken (*m* minutes)	**Frequency**
$0 < m \leq 10$	3
$10 < m \leq 20$	8
$20 < m \leq 30$	11
$30 < m \leq 40$	9
$40 < m \leq 50$	9

a) Work out an estimate for the mean time taken.

..... minutes **(4)**

b) State the modal class interval

..... **(1)**

c) Find the group containing the median

..... **(2)**

(7 marks)

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6. The table shows information about the numbers of hours 40 children watched television one evening.

Number of hours (h)	Frequency
$0 \leqslant h < 1$	3
$1 \leqslant h < 2$	8
$2 \leqslant h < 3$	7
$3 \leqslant h < 4$	10
$4 \leqslant h < 5$	12

(a) Find the class interval that contains the median.

(1)

.....

(b) Work out an estimate for the mean number of hours.

(4)

..... hours

(5 marks)

7. 80 people work in Jenny's factory.
The table shows some information about the annual pay of these 80 workers.

Annual pay (£x)	**Number of workers**
$10\,000 < x \leq 14\,000$	32
$14\,000 < x \leq 16\,000$	24
$16\,000 < x \leq 18\,000$	16
$18\,000 < x \leq 20\,000$	6
$20\,000 < x \leq 40\,000$	2

(a) Write down the modal class interval.

.....
(1)

(b) Find the class interval that contains the median.

.....
(2)

(c) Work out an estimate for the mean annual pay.

.....
(3)

(d) Why is your answer to part (c) and estimate?

.....

.....

.....
(1)
(7 marks)

8. Caleb measured the heights of 30 plants.
The table gives some information about the heights, h cm, of the plants.

Height (h cm) of plants	**Frequency**		
$0 < h \leq 10$	2		
$10 < h \leq 20$	8		
$20 < h \leq 30$	9		
$30 < h \leq 40$	7		
$40 < h \leq 50$	4		

(a) Work out an estimate for the mean height of a plant.

.....
(3)

(b) Write down the modal class interval.

.....
(1)

(c) Find the class interval that contains the median.

.....
(2)

(d) Why is your answer to part (a) and estimate?

.....

.....

.....
(1)
(7 marks)

9. Marcus collected some pebbles.
He weighed each pebble.

The grouped frequency table gives some information about weights.

Weight (w grams)	Frequency		
$50 \leq w < 60$	5		
$60 \leq w < 70$	9		
$70 \leq w < 80$	22		
$80 \leq w < 90$	27		
$90 \leq w < 100$	17		

(a) Work out an estimate for the mean weight of the pebbles.

.....
(3)

(b) Write down the modal class interval.

.....
(1)

(c) Find the class interval that contains the median.

.....
(2)

(d) Why is your answer to part (a) and estimate?

.....

.....

.....
(1)
(7 marks)