Averages from Frequency Tables

15 The table gives information about the ages of the 41 children in Blackrod football club.

Age (years)	Frequency
8	6
9	7
10	15
11	11
12	2

(a) Work out the mean age.
Give your answer correct to 1 decimal place.

..... years
(3)

Rohan is working out the modal age of the children in Blackrod football club.
He says,

"The highest frequency is 15, so the modal age is 15"

(b) Is Rohan's answer correct?
Give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 15 is 4 marks)

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

Number of social media accounts	Frequency
0	3
1	57
2	84
3	75
4	81

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

.....

(2)

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

.....

(2)

(Total for Question 15 is 4 marks)

16 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

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.....

.....

(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.

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(1)

(Total for Question 16 is 2 marks)

17 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

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

..... cm

(Total for Question 17 is 3 marks)

22 Seija works at a weather station.
The table gives information about the temperature, T °C, at midday for each of 50 cities in the UK on Tuesday.

Temperature (T °C)	**Frequency**
$10 < T \leqslant 15$	2
$15 < T \leqslant 20$	8
$20 < T \leqslant 25$	13
$25 < T \leqslant 30$	21
$30 < T \leqslant 35$	6

(a) Calculate an estimate for the mean temperature.

.....°C

(3)

Seija says,

> "The median temperature is 22.5 °C because 22.5 is the middle number in the middle group."

(b) Is Seija correct?
Give a reason for your answer.

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.....

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(1)

(Total for Question 22 is 4 marks)

28 The table shows information about the weights of 120 oranges.

Weight (w grams)	**Frequency**
$50 < w \leqslant 100$	34
$100 < w \leqslant 150$	29
$150 < w \leqslant 200$	27
$200 < w \leqslant 250$	19
$250 < w \leqslant 300$	11

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

.....

(1)

(b) Calculate an estimate for the mean weight of the 120 oranges.
Give your answer correct to 3 significant figures.

..... grams

(3)

(Total for Question 28 is 4 marks)