

Drawing Histograms

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **21**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** The table gives information about the lengths of some leaves.
Complete the table.

Length (x cm)	Frequency	Class width	Frequency density
$0 < x \leq 10$	15		
$10 < x \leq 15$	20		
$15 < x \leq 30$	24		
$30 < x \leq 50$	10		

(2)

(Total for Question 1 is 2 marks)

- 2** In a histogram, a bar for the class $10 < x \leq 25$ has a height of 2.4
Work out the frequency of this class.

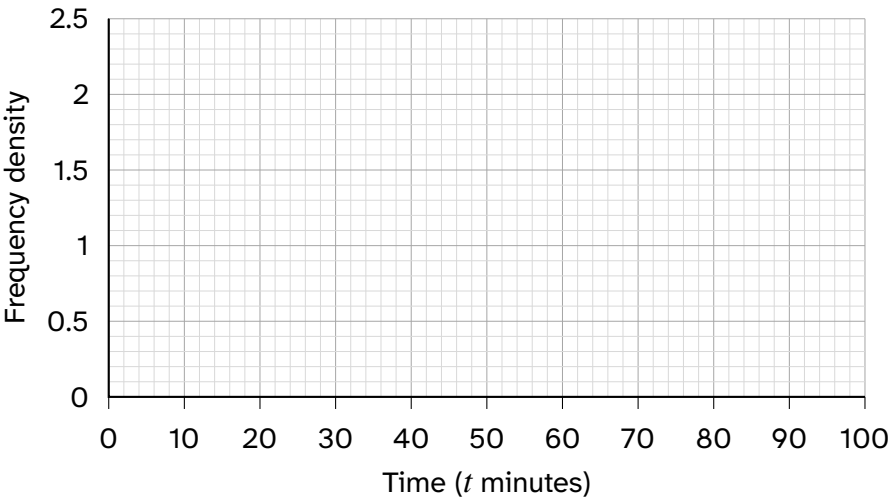
.....
(1)

(Total for Question 2 is 1 mark)

- 3 The table gives information about the times, in minutes, that 75 people spent in a museum.

Time (t minutes)	Frequency
$0 < t \leq 20$	8
$20 < t \leq 30$	15
$30 < t \leq 40$	24
$40 < t \leq 60$	18
$60 < t \leq 100$	10

- (a) On the grid, draw a histogram for this information.



(3)

- (b) Work out an estimate for the number of people who spent more than 50 minutes in the museum.

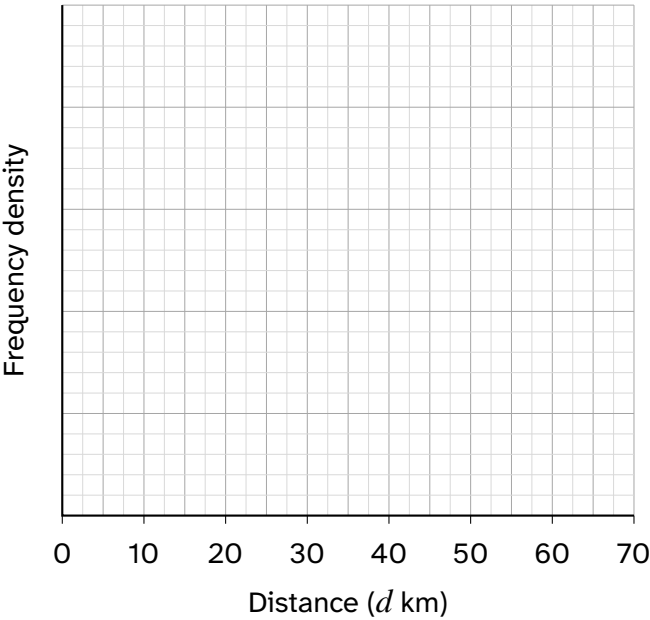
(2)

(Total for Question 3 is 5 marks)

- 4 The table gives information about the distances, in km, that 120 members of a cycling club rode last weekend.

Distance (d km)	Frequency
$0 < d \leq 20$	16
$20 < d \leq 30$	30
$30 < d \leq 35$	22
$35 < d \leq 50$	36
$50 < d \leq 70$	16

- (a) On the grid, draw a histogram for this information.



(3)

- (b) Work out an estimate for the number of these members who rode between 25 km and 45 km.

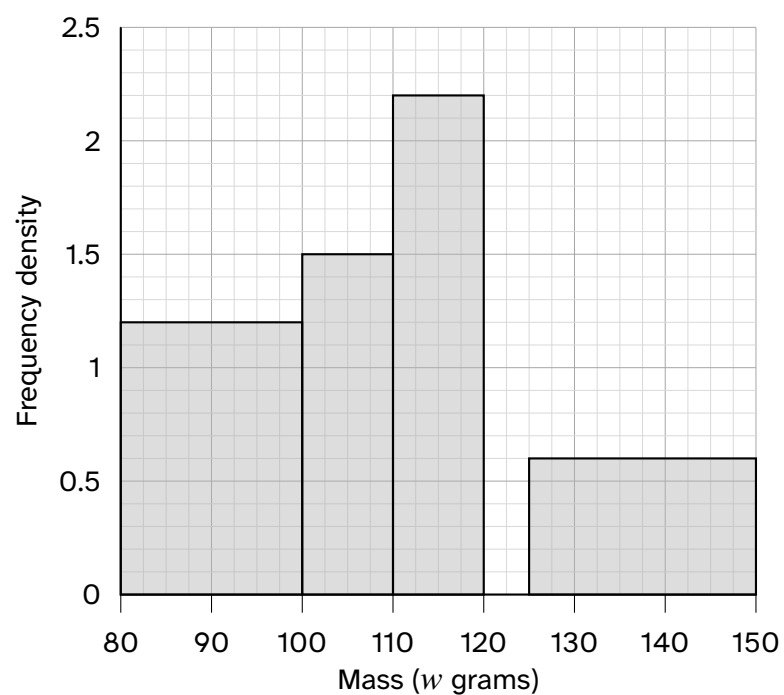
(2)

(Total for Question 4 is 5 marks)

- 5 The table gives information about the masses, in grams, of some apples.

Mass (w grams)	Frequency
$80 < w \leq 100$	12
$100 < w \leq 110$	15
$110 < w \leq 120$	22
$120 < w \leq 150$	18

Ifan drew this histogram for the information in the table.

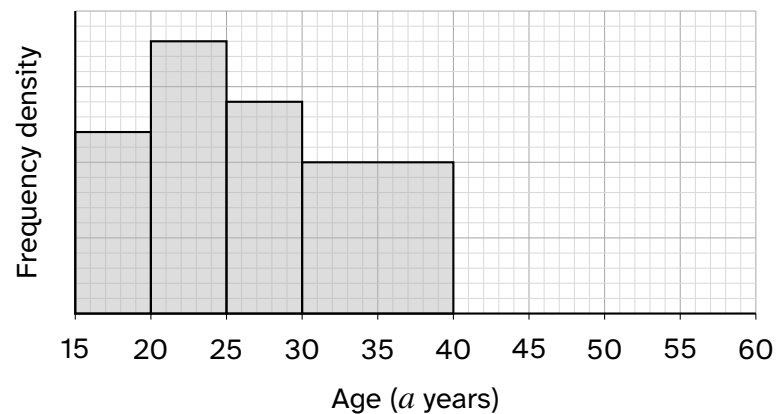


Write down **two** mistakes Ifan made.

(2)

(Total for Question 5 is 2 marks)

- 6 The histogram gives information about the ages of the people at a concert.
No one at the concert was aged 15 or under or over 60
The bar for $40 < a \leq 60$ is missing.

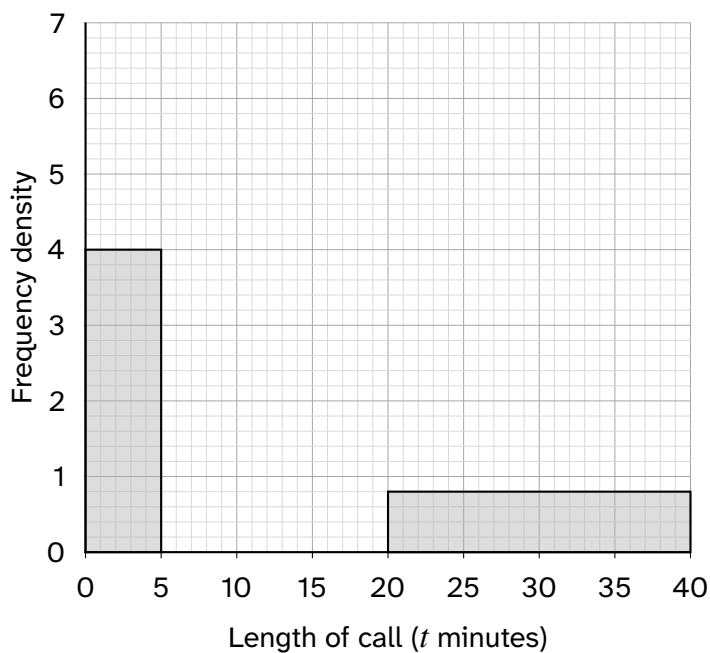


18 people were aged $20 < a \leq 25$
24 people were aged $40 < a \leq 60$
Complete the histogram.

(3)

(Total for Question 6 is 3 marks)

7 The table and the histogram show information about the lengths of the calls made to a helpline one morning. Both are incomplete.



(a) Use the histogram to complete the table.

Length of call (t minutes)	Frequency
$0 < t \leq 5$	
$5 < t \leq 10$	32
$10 < t \leq 20$	44
$20 < t \leq 40$	16

(1)

(b) Use the table to complete the histogram.

(2)

(Total for Question 7 is 3 marks)