

Interpreting Histograms

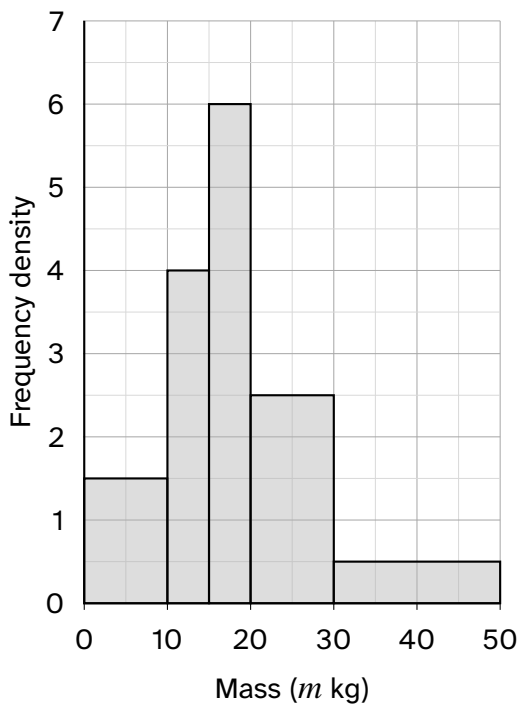
For AQA GCSE Mathematics (8300) • Higher tier

Name _____

Total marks: **26**

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

1 The histogram shows the masses of some parcels.



(a) Use the histogram to complete the frequency table.

Mass (<i>m</i> kg)	Frequency
$0 < m \leq 10$	
$10 < m \leq 15$	
$15 < m \leq 20$	
$20 < m \leq 30$	
$30 < m \leq 50$	

[2 marks]

(b) How many parcels were weighed?

[1 mark]

Answer _____

(c) Estimate the number of parcels with a mass between 12 kg and 25 kg.

[2 marks]

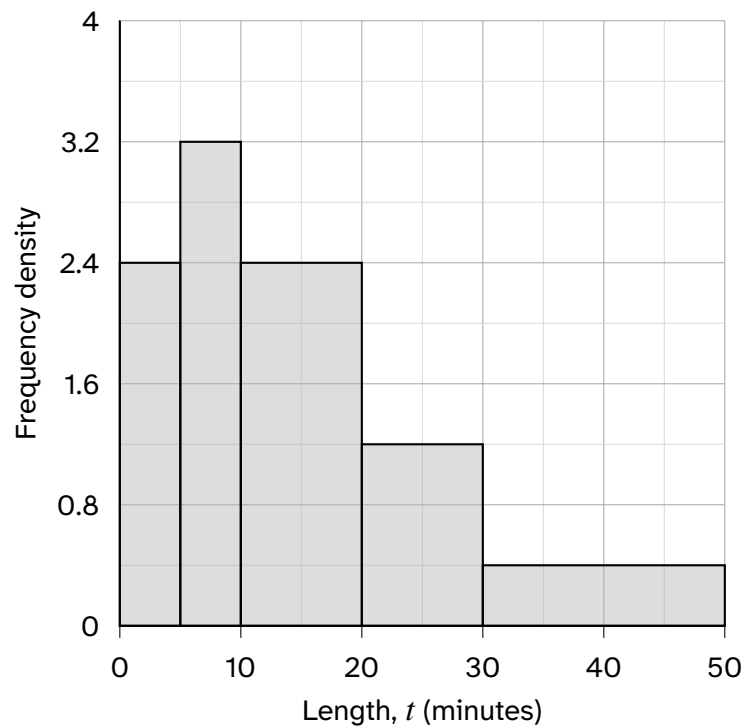
Answer _____

- 2** In a histogram, the bar for the class $0 < x \leq 5$ has frequency 20 and height 4 cm.
The bar for the class $5 < x \leq 15$ has frequency 30
Work out the height of this bar.

[2 marks]

Answer _____ cm

- 3 The histogram shows the lengths, in minutes, of the calls made to a helpline one morning.



- (a) Work out an estimate of the mean length of a call.
You may use the table to help you.

Length, t (minutes)	Frequency	Midpoint
$0 < t \leq 5$		
$5 < t \leq 10$		
$10 < t \leq 20$		
$20 < t \leq 30$		
$30 < t \leq 50$		

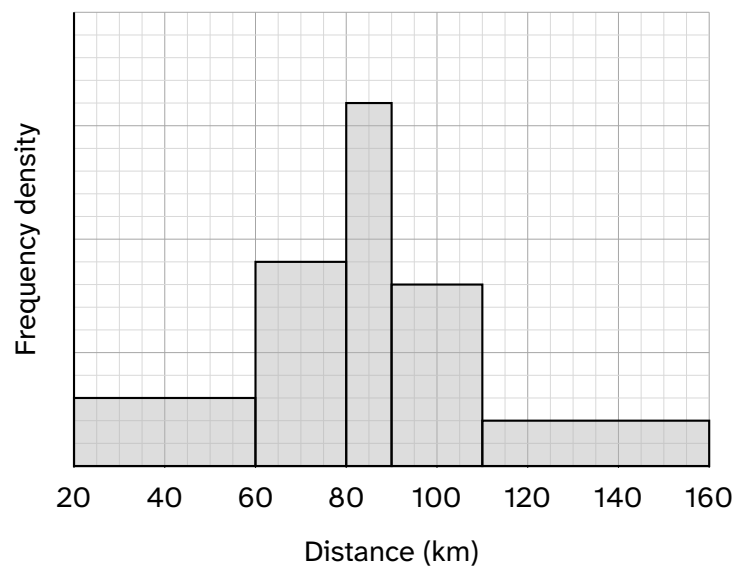
[4 marks]

Answer _____ minutes

- (b) Later that morning, 10 more calls are made to the helpline.
Each of these calls is shorter than 5 minutes.
Will the estimate of the mean length of a call increase, decrease or stay the same?
Give a reason for your answer.

[1 mark]

- 4 The histogram shows the distances cycled by the members of a cycling club one weekend.
The scale on the frequency density axis is not shown.

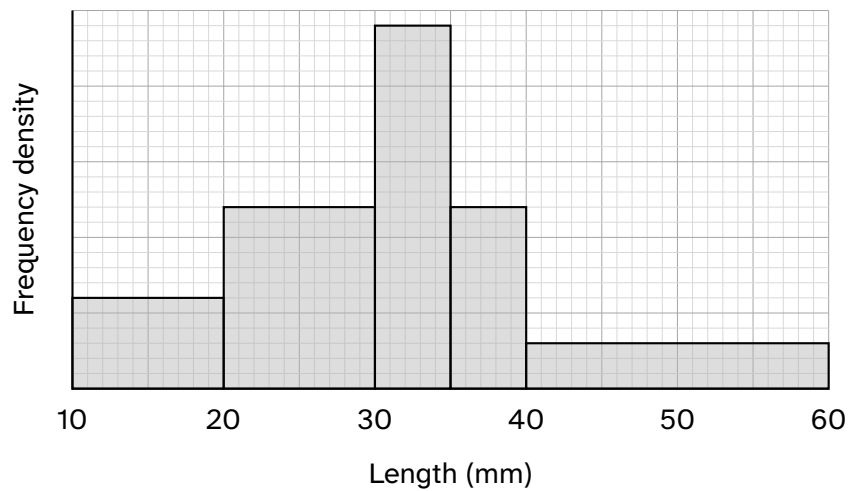


Estimate the fraction of the members who cycled between 70 km and 100 km.

[4 marks]

Answer _____

- 5 The histogram shows information about the lengths of 840 leaves.
The scale on the frequency density axis is missing.



- (a) How many leaves have a length between 30 mm and 40 mm?

[4 marks]

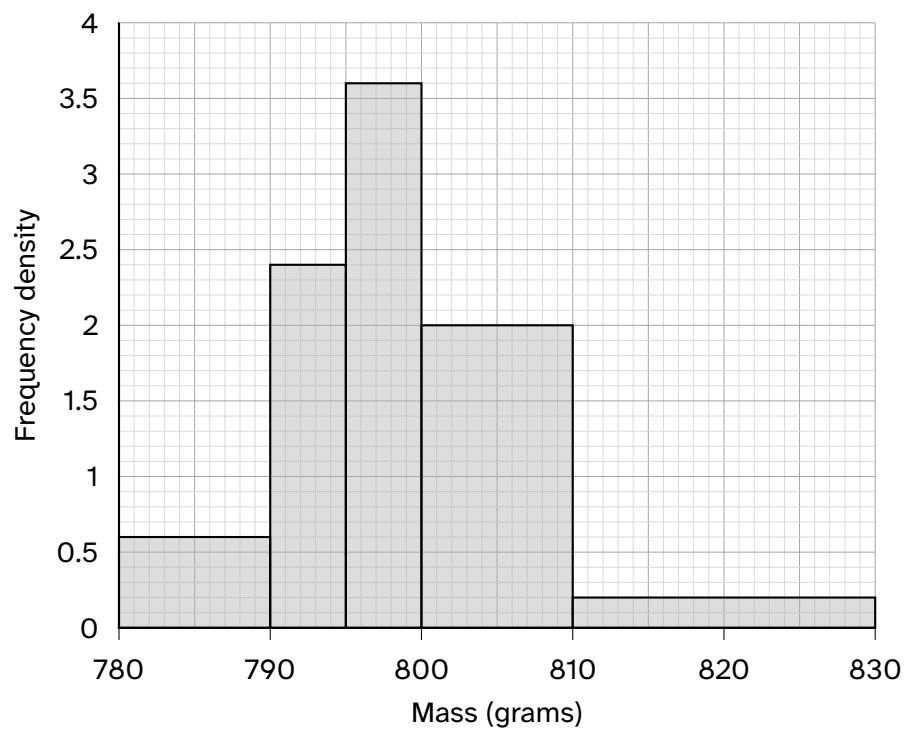
Answer _____

- (b) Estimate the number of leaves with a length less than 25 mm.

[2 marks]

Answer _____

- 6 A bakery checks the masses of a sample of 60 loaves.
A histogram is drawn to represent the data.



Loaves with a mass less than 785 grams are rejected.

One week the bakery rejects 225 loaves.

Use the sample to estimate the total number of loaves the bakery made that week.

[4 marks]

Answer _____