

# Histograms

## Question Paper 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Handling Data Statistics
Sub Topic	Histograms(Graphical representation of data)
Booklet	Question Paper 1

**Time Allowed:** 60 minutes

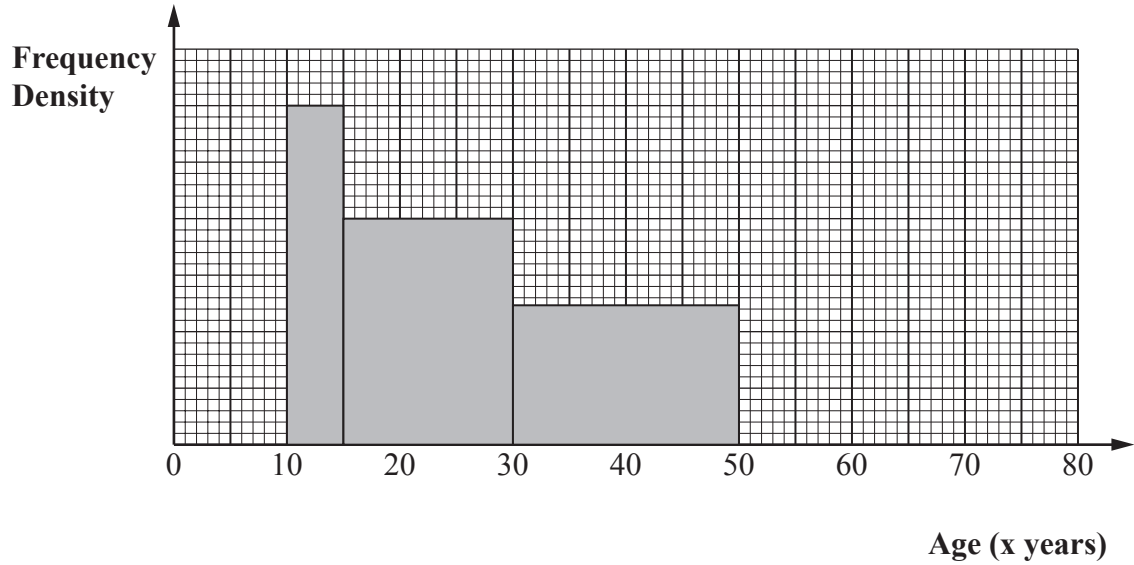
**Score:** /50

**Percentage:** /100

**Grade Boundaries:**

9	8	7	6	5	4	3	2	1
>90%	80%	70%	60%	50%	40%	30%	20%	10%

1 The incomplete histogram and table give information about the ages of people living in a village.



Age ( $x$ years)	Frequency
$0 \leq x < 10$	100
$10 \leq x < 15$	60
$15 \leq x < 30$	
$30 \leq x < 50$	
$50 \leq x < 75$	50
$75 \leq x < 80$	20

(i) Use the histogram to complete the table.

(ii) Use the table to complete the histogram.

**(Total for Question 1 is 4 marks)**

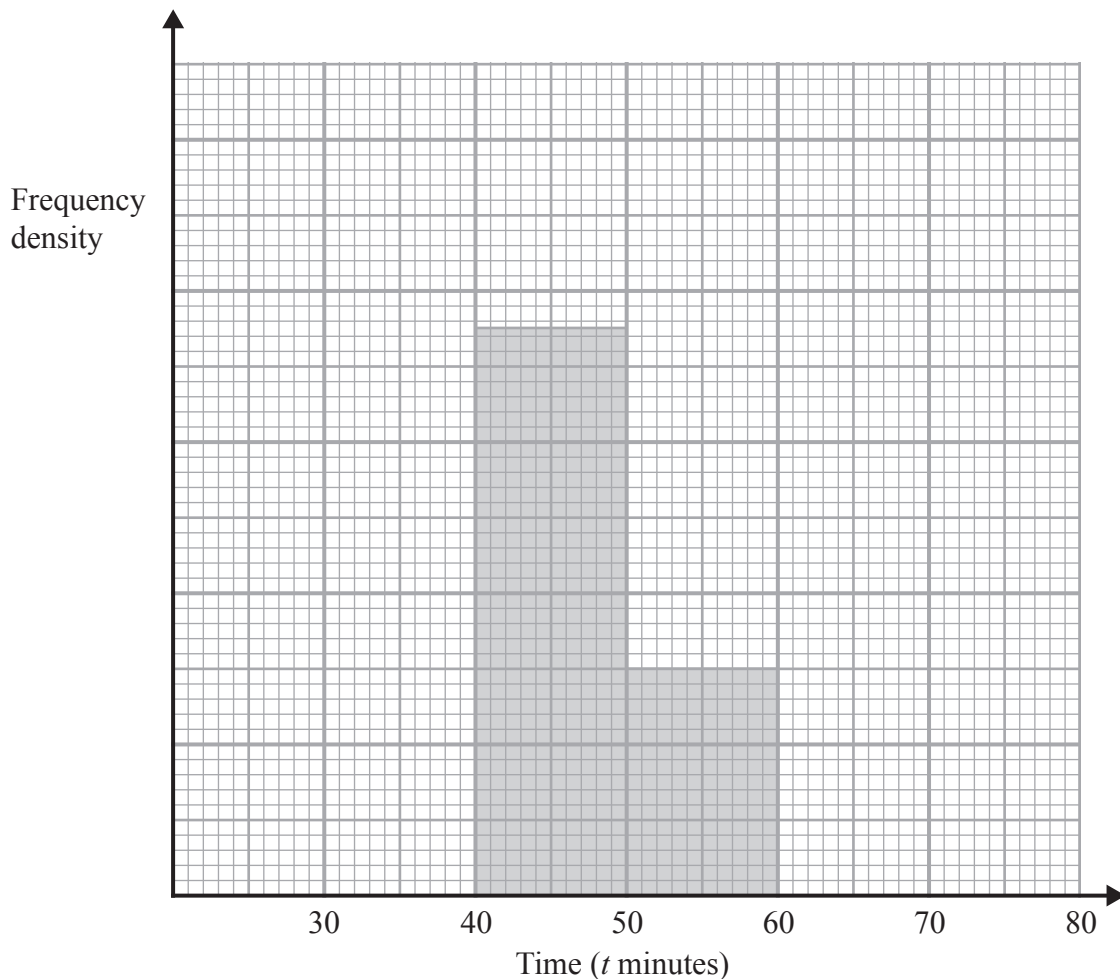
- 2 The incomplete table shows information about the times, in minutes, that runners took to complete a race.

Time ( $t$ minutes)	$30 \leq t < 35$	$35 \leq t < 40$	$40 \leq t < 50$	$50 \leq t < 60$	$60 \leq t < 80$
Number of runners	12	20		12	16

- (a) Use the histogram to calculate the number of runners who took between 40 and 50 minutes to complete the race.

.....  
(2)

- (b) Complete the histogram for the remaining results.



(2)

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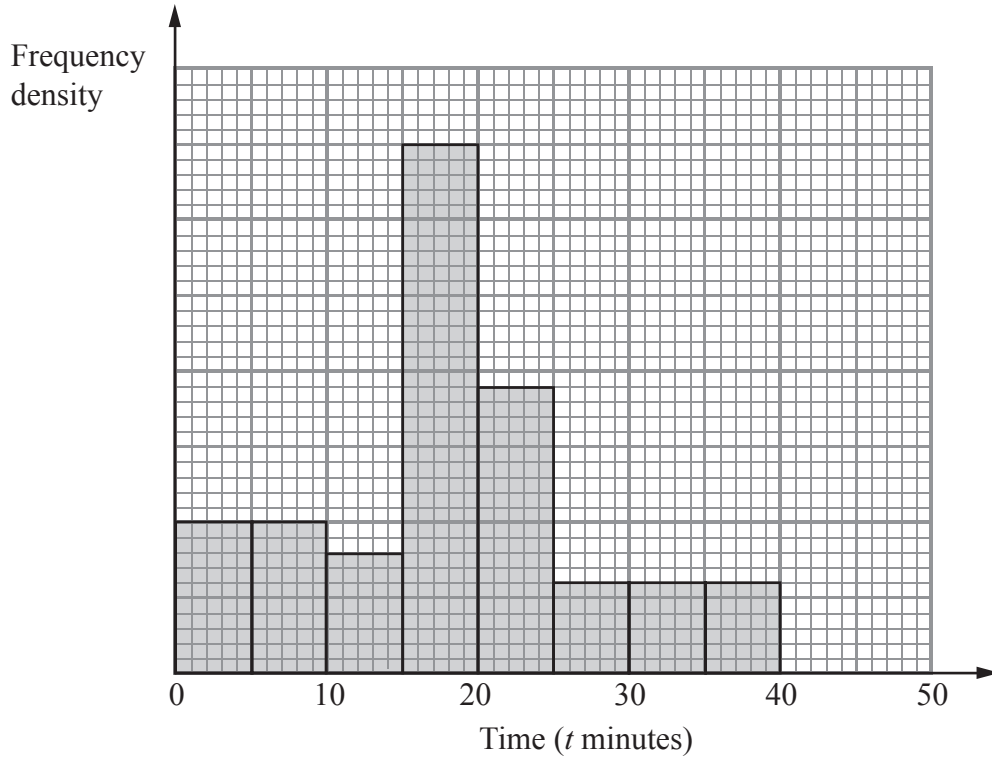
Runners who achieved a time between 37 and 48 minutes to complete the race were each awarded a silver medal.

(c) Calculate an estimate of the number of runners awarded silver medals.

.....  
(2)

**(Total for Question 2 is 6 marks)**

- 3 The histogram shows information about the times,  $t$  minutes, patients spent at a doctors’ surgery on one day.  
No patient spent more than 40 minutes at the surgery.



- (a) Calculate the percentage of the patients who spent between 25 and 40 minutes at the surgery.

..... %  
(3)

- (b) 16 patients spent between 10 and 15 minutes at the surgery.

Calculate the total number of patients at the surgery that day.

.....  
(2)

**(Total for Question 3 is 5 marks)**

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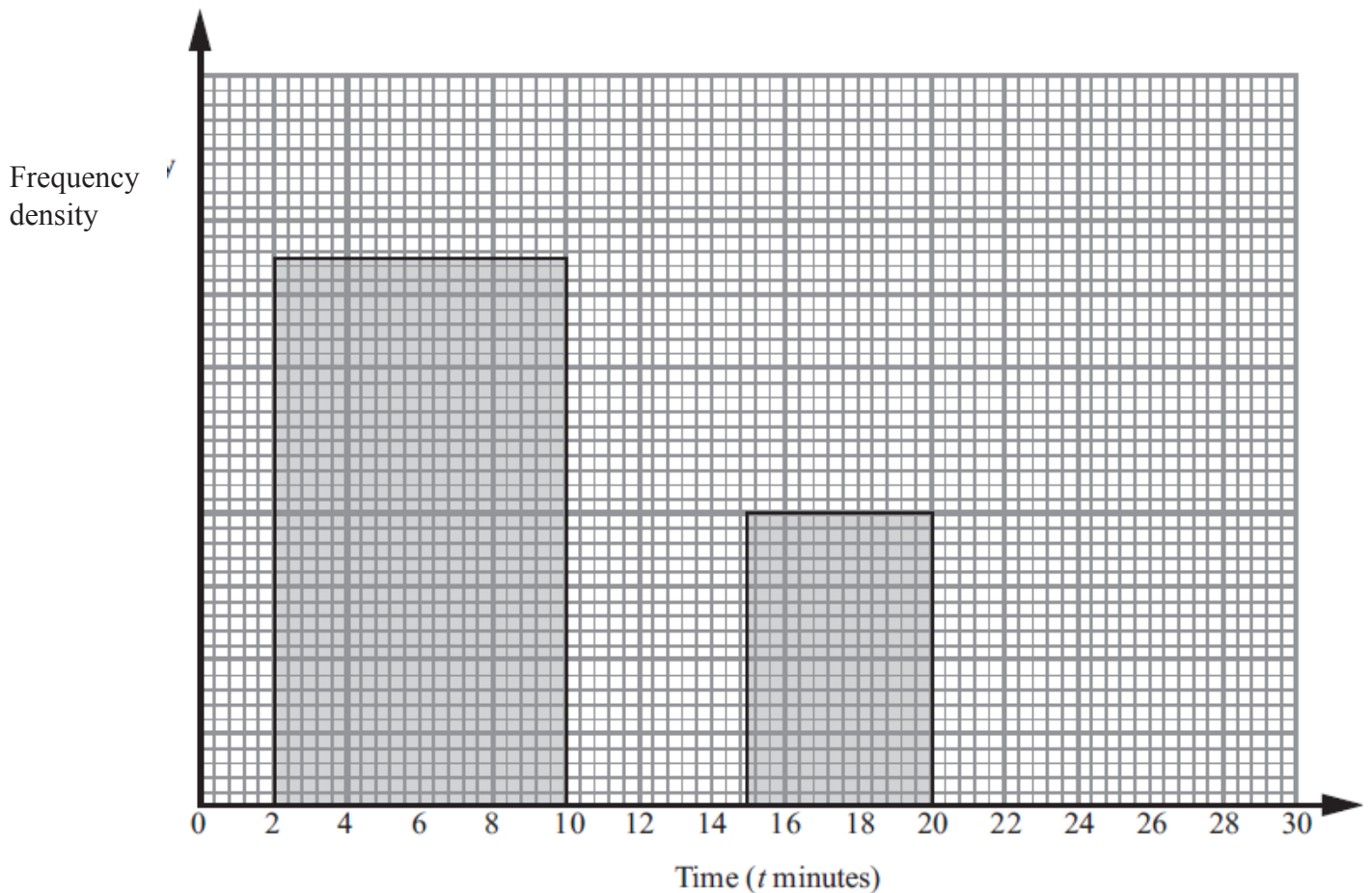
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4 The incomplete table and histogram show information about the lengths of time,  $t$  minutes, students spent waiting for their school bus one morning.

Time ( $t$ minutes)	Number of students
$0 < t \leq 2$	20
$2 < t \leq 10$	120
$10 < t \leq 15$	60
$15 < t \leq 20$	
$20 < t \leq 30$	30

(i) Use the histogram to complete the table.

(ii) Use the table to complete the histogram.



(Total for Question 4 is 4 marks)

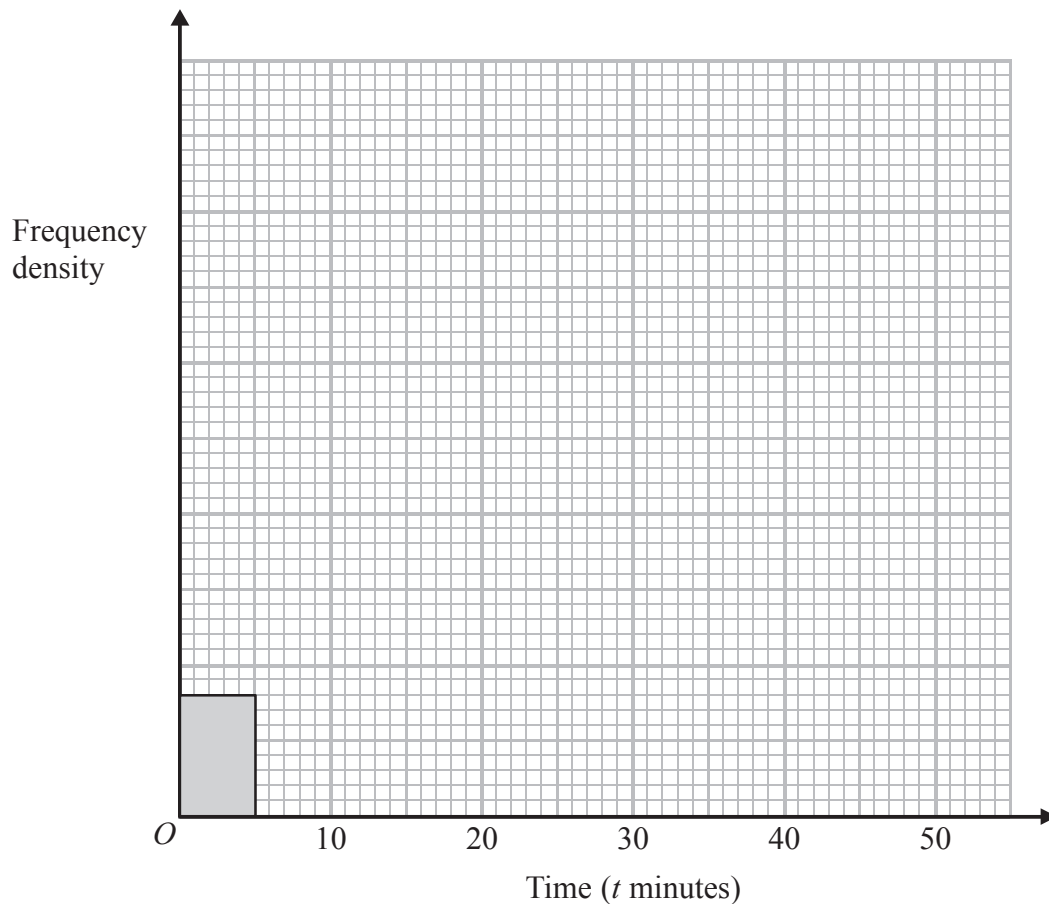
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- 5 The table shows information about the times, in minutes, that some people took to complete a sudoku puzzle.

Time ( $t$ minutes)	$0 < t \leq 5$	$5 < t \leq 20$	$20 < t \leq 30$	$30 < t \leq 50$
Number of people	4	18	34	30

Complete the histogram for this information.

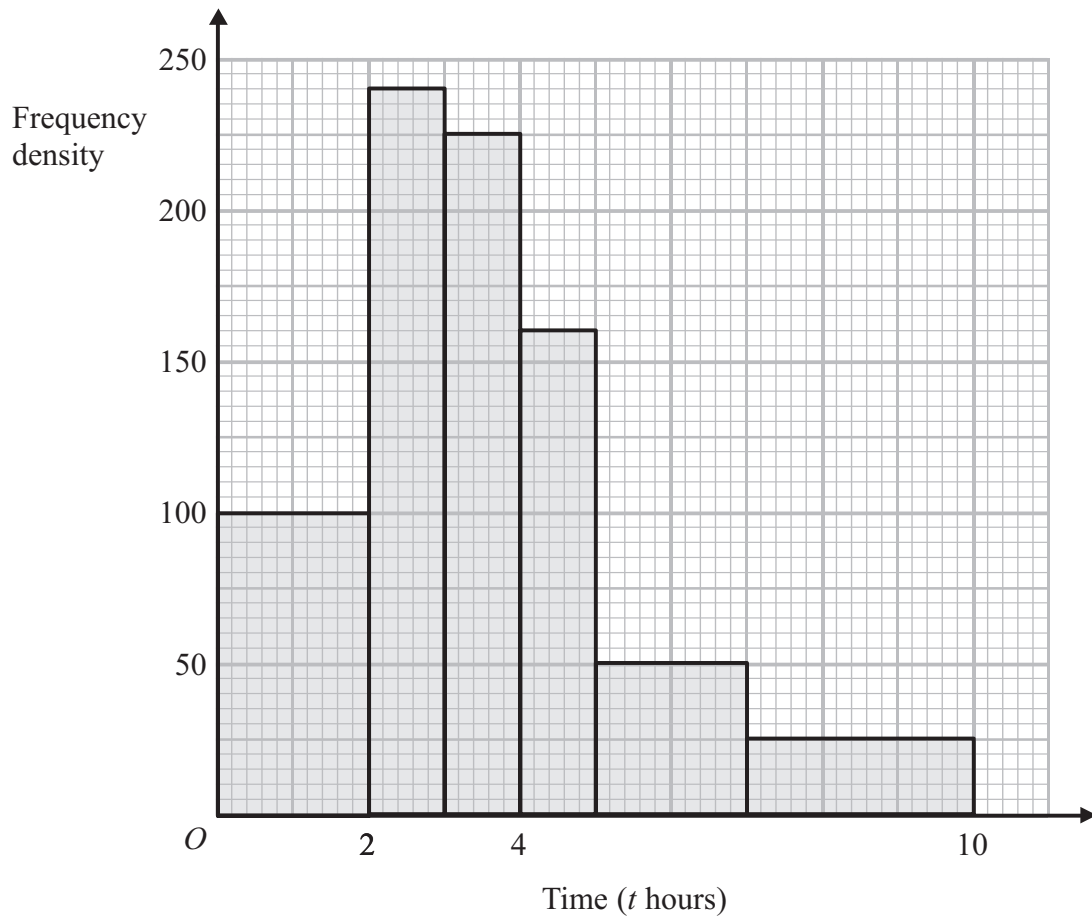


(Total for Question 5 is 3 marks)

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- 6 The histogram shows information about the times,  $t$  hours, for which some cars were left in a car park.

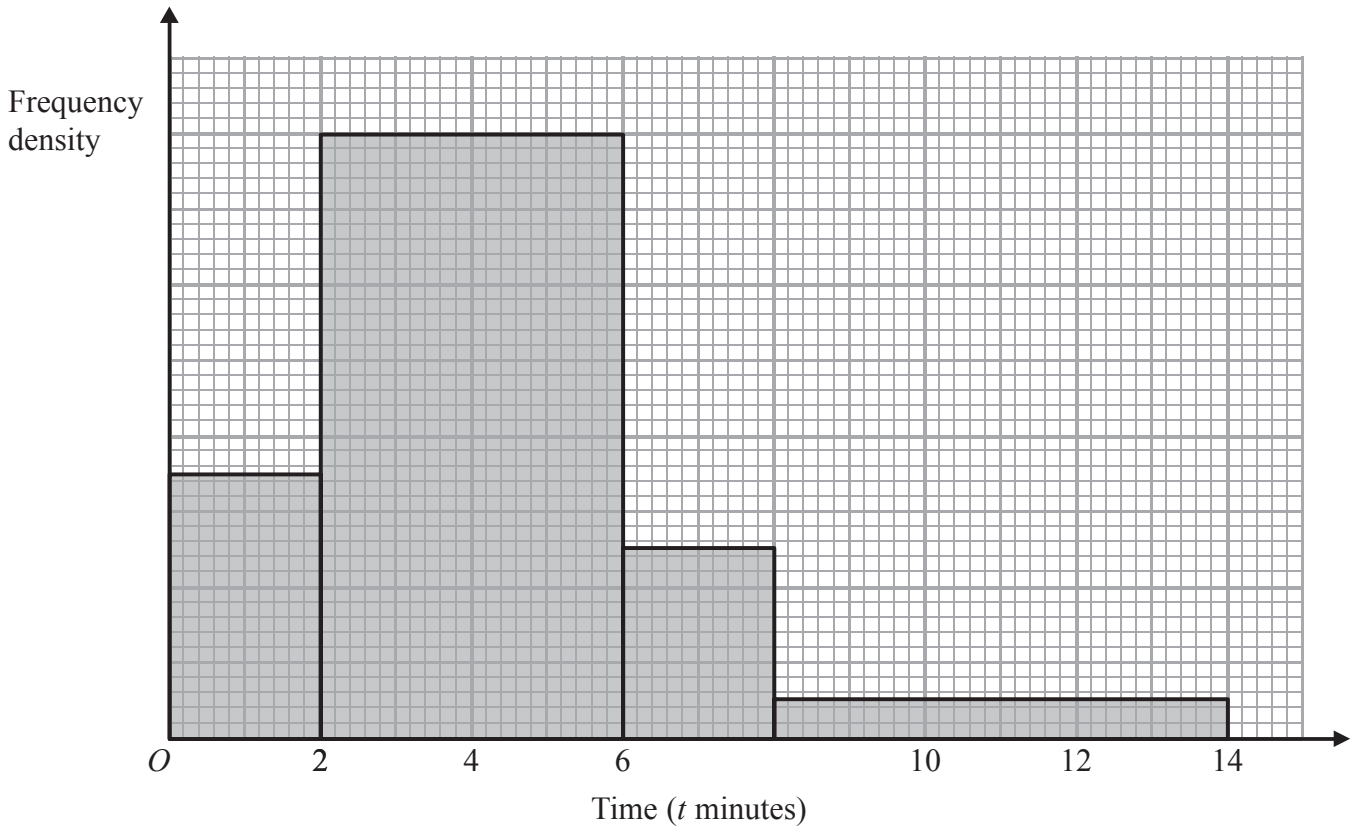


Calculate an estimate for the number of cars which were left in the car park for between 4.5 hours and 8 hours.

.....  
(Total for Question 6 is 3 marks)



7 The histogram shows information about the times,  $t$  minutes, customers spent in a post office.



28 customers spent 2 minutes or less in the post office.  
Calculate an estimate for the number of customers who spent between 5 and 14 minutes in the post office.

(Total for Question 7 is 3 marks)

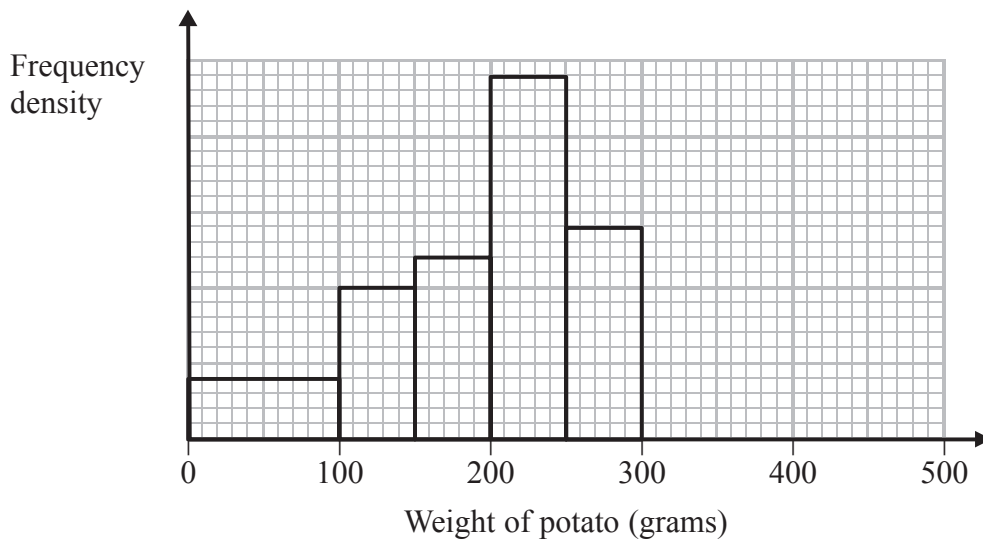
- 8 Loma grows tomatoes in her garden.  
The table shows information about the weights, in grams, of some of her tomatoes.

Weight of tomato ( $w$ grams)	Number of tomatoes
$0 < w \leq 10$	2
$10 < w \leq 20$	8
$20 < w \leq 30$	16
$30 < w \leq 40$	10
$40 < w \leq 50$	4

- (a) Work out an estimate for the total weight of these tomatoes.

..... grams  
(3)

Loma also grows potatoes.  
The incomplete histogram shows information about the weights, in grams, of some of her potatoes.



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There were 10 potatoes with weights between 100 grams and 150 grams.

(b) How many potatoes had weights less than 100 grams?

.....  
(2)

There were 12 potatoes with weights between 300 grams and 450 grams.

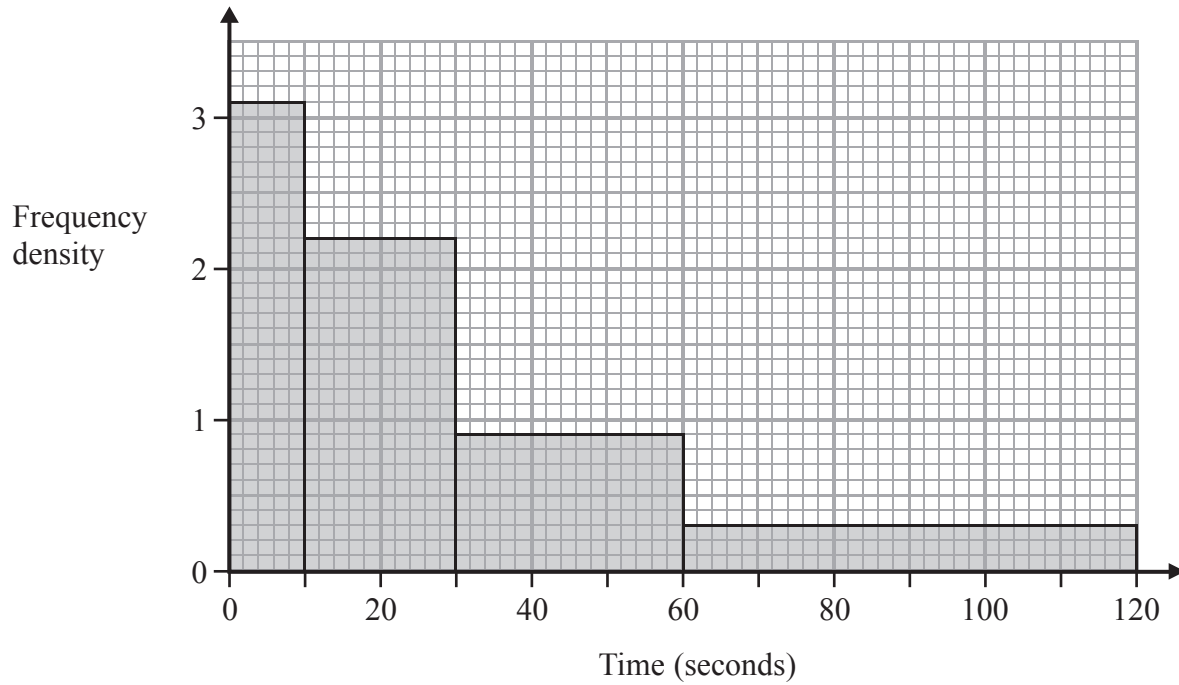
(c) Show this information on the histogram.

(2)

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**(Total for Question 8 is 7 marks)**

- 9 The histogram shows information about the times taken by a telephone call center to answer incoming calls.



Work out an estimate for the percentage of calls that are answered in less than 40 seconds.

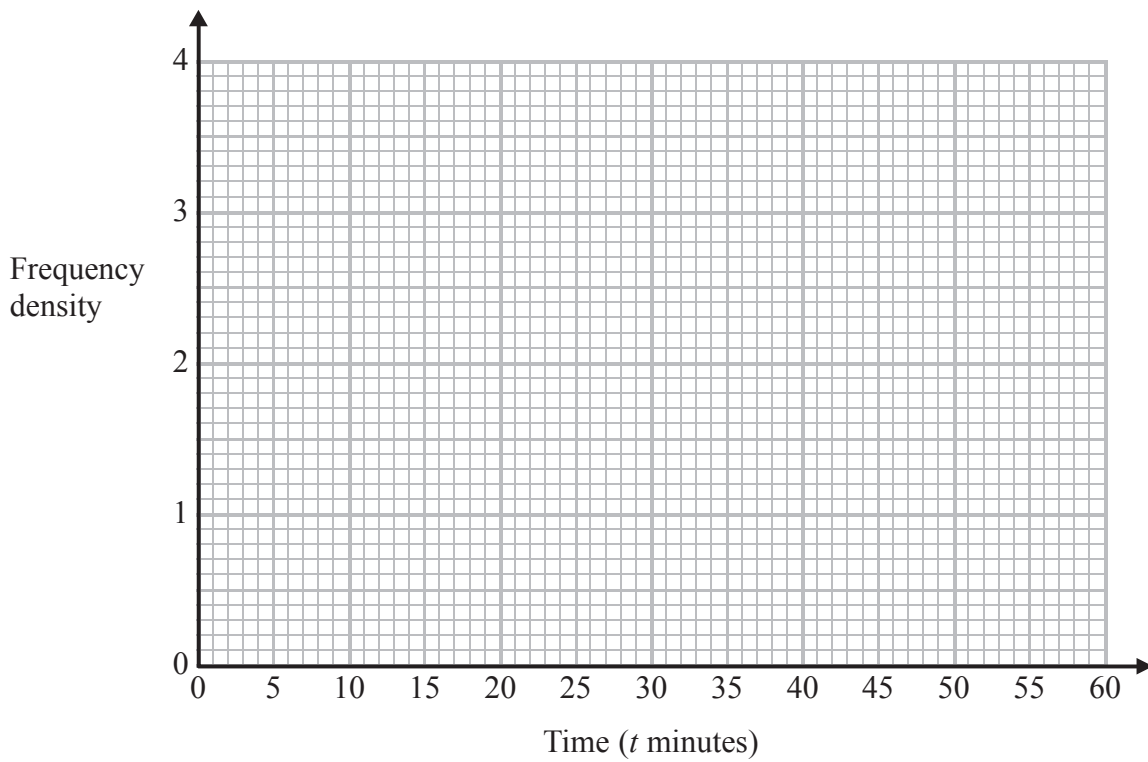
..... %

(Total for Question 9 is 3 marks)

10 The table shows information about the times, in minutes, that 100 shoppers spent in a supermarket.

Time ( $t$ minutes)	Frequency
$10 \leq t < 15$	6
$15 \leq t < 20$	10
$20 \leq t < 30$	20
$30 \leq t < 40$	36
$40 \leq t < 60$	28

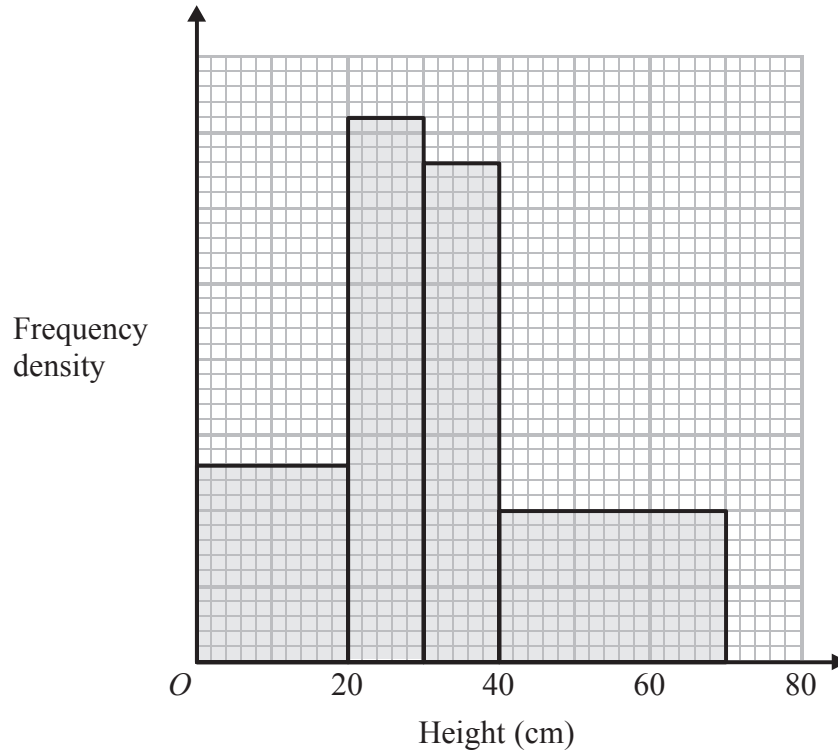
Draw a histogram to show this information.



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(Total for Question 10 is 3 marks)

11 The histogram shows information about the heights of some tomato plants.

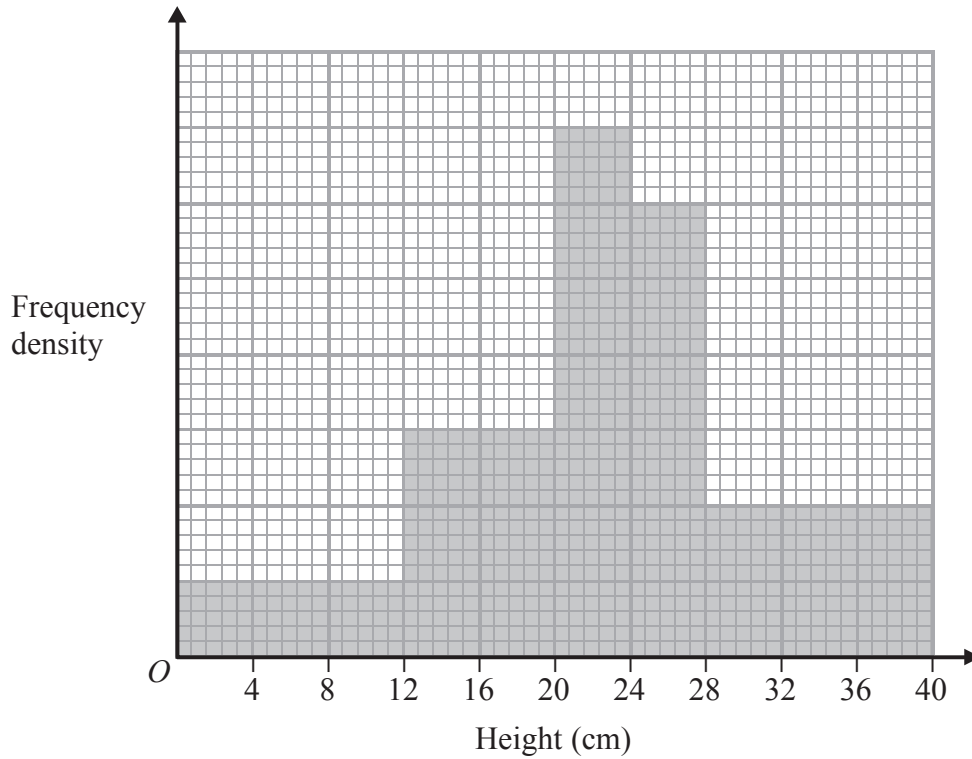


26 plants have a height of less than 20 cm.

Work out the total number of tomato plants.

.....  
**(Total for Question 11 is 3 marks)**

12



The histogram gives information about the heights of some plants.

There are 360 plants with a height of 20 cm or less.

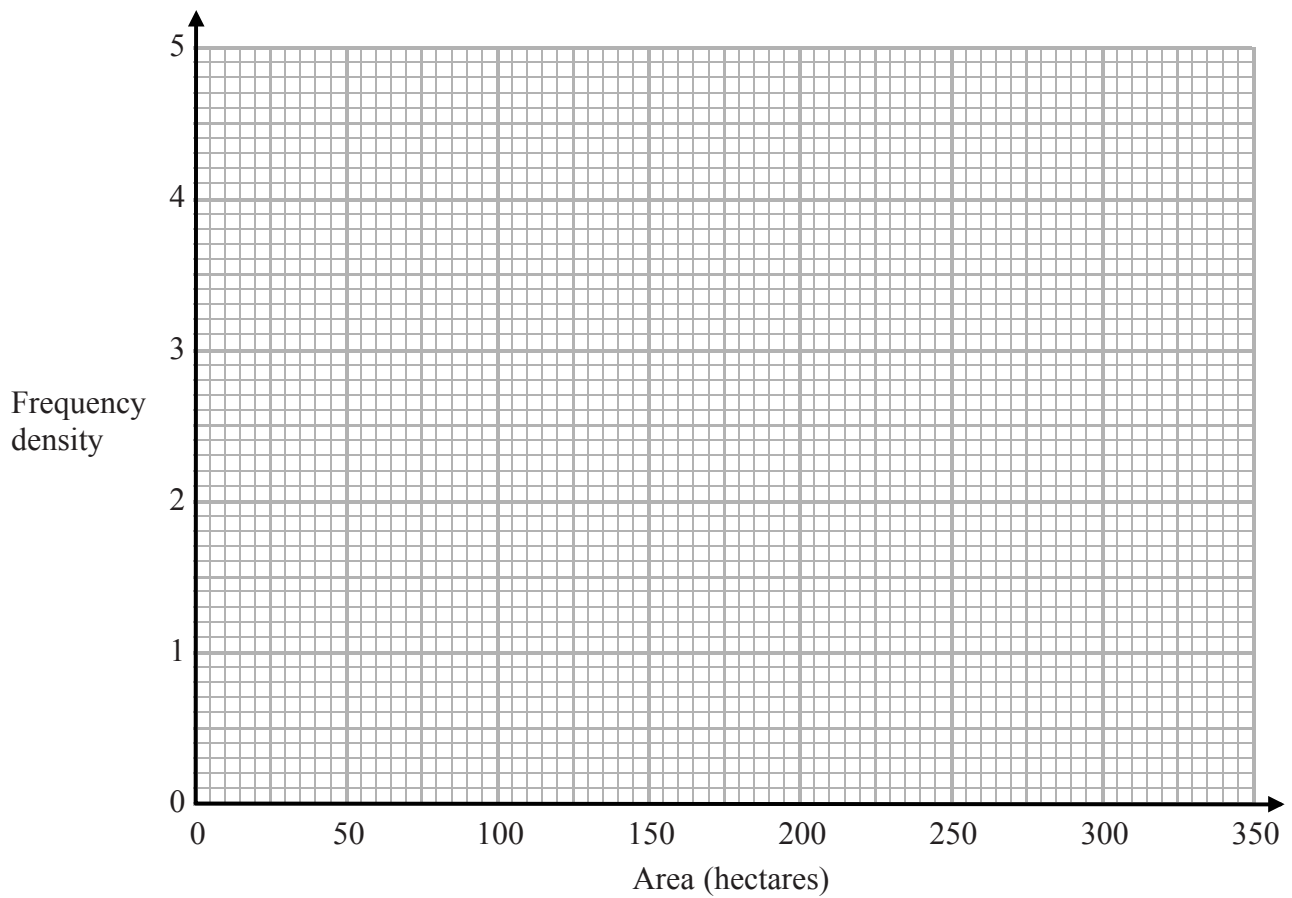
Work out the number of plants with a height of more than 20 cm.

(Total for Question 12 is 3 marks)

13 The table gives information about the areas of some farms in France.

Area ( $A$ hectares)	Frequency
$0 < A \leq 20$	50
$20 < A \leq 50$	90
$50 < A \leq 100$	120
$100 < A \leq 300$	160

On the grid, draw a histogram to show this information.



(Total for Question 13 is 3 marks)