

Examination Practice Questions

You should have:

A ruler, protractor, compasses, a pen, pencil, eraser, calculator.
For some questions, you may need tracing paper.

Instructions

- Use **black** ink or ball-point pen.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- **Calculators may be used.**

Information

- The marks for each question are shown in brackets.
- Use the number of marks for each question as a guide as to how much time to spend on each question. As a rough guide, you can multiply the number of marks by 1.2 to see how many minutes you should spend on a question.
- Questions been carefully compiled from or modelled on a variety of past papers and will generally get more challenging as the document progresses. Some of the later questions will go beyond the core grade level for this topic.

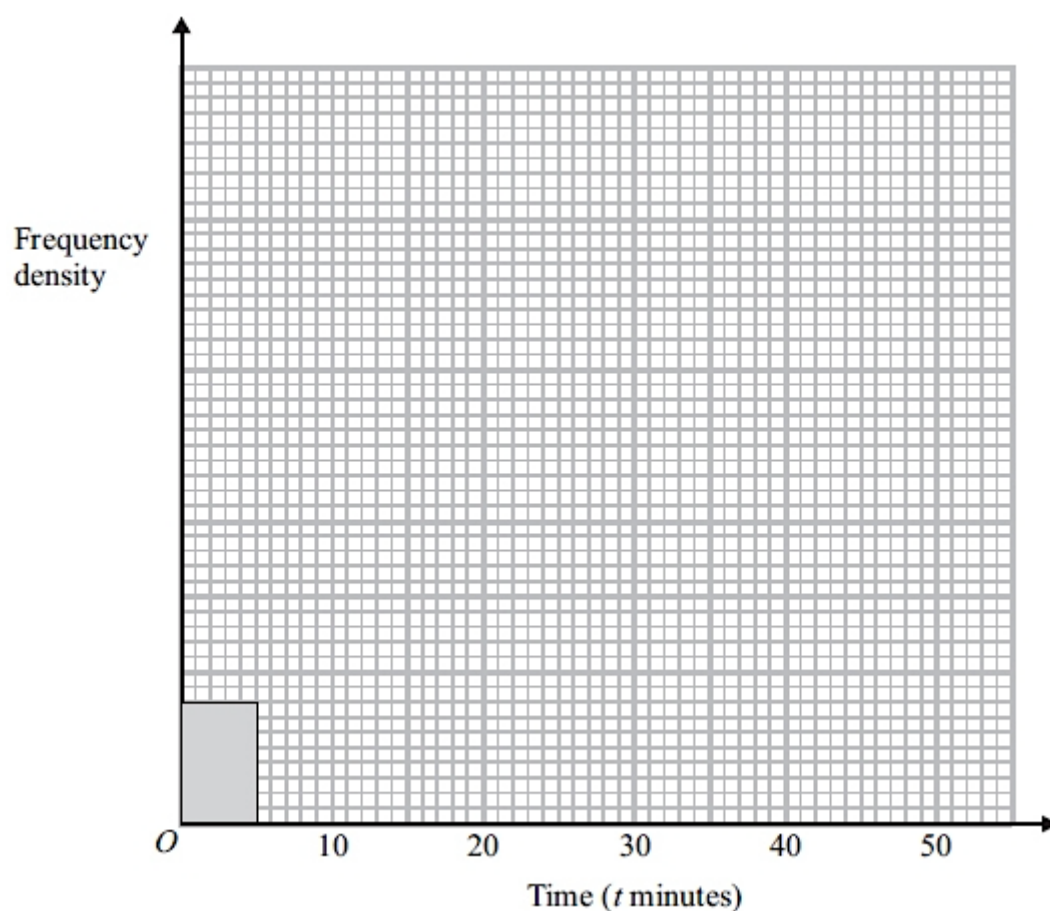
Advice

- Read each question carefully before you start to answer it.
- Don't forget to have fun.
- Check your answers at the end.

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.

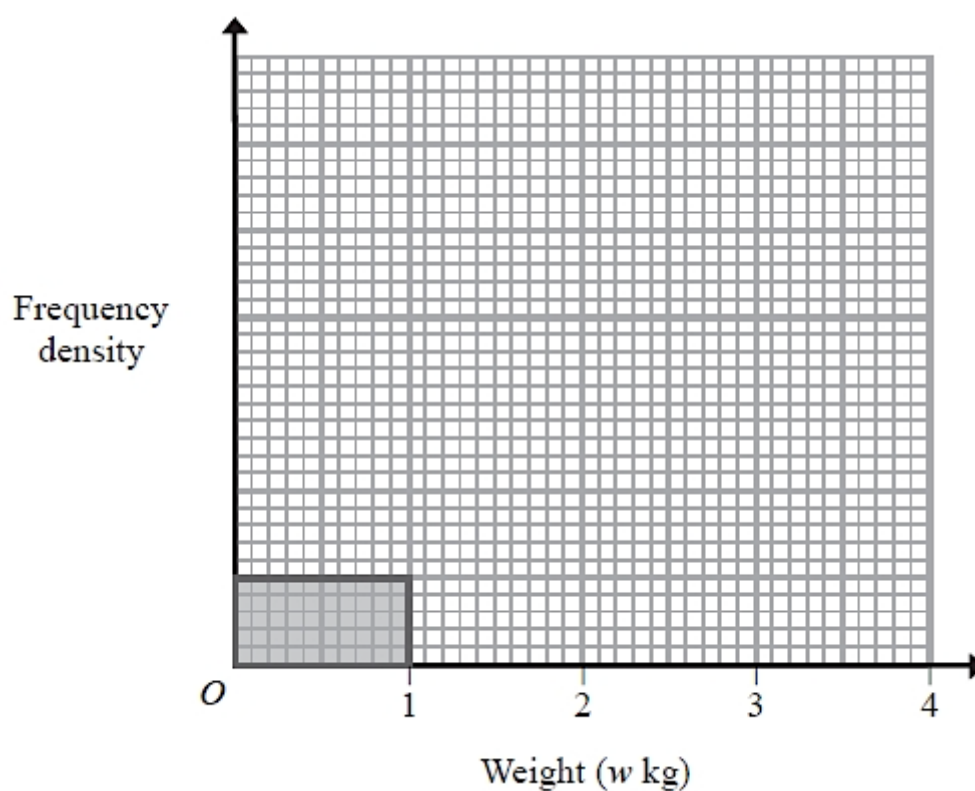


(3 marks)

400 people are asked to guess the weight of a large cake.
The table shows information about the weights they guess.

Weight (w kg)	Number of guesses
$0 < w \leq 1$	50
$1 < w \leq 1.6$	90
$1.6 < w \leq 2$	120
$2 < w \leq 2.5$	95
$2.5 < w \leq 4$	45

Use the information in the table to complete the histogram.

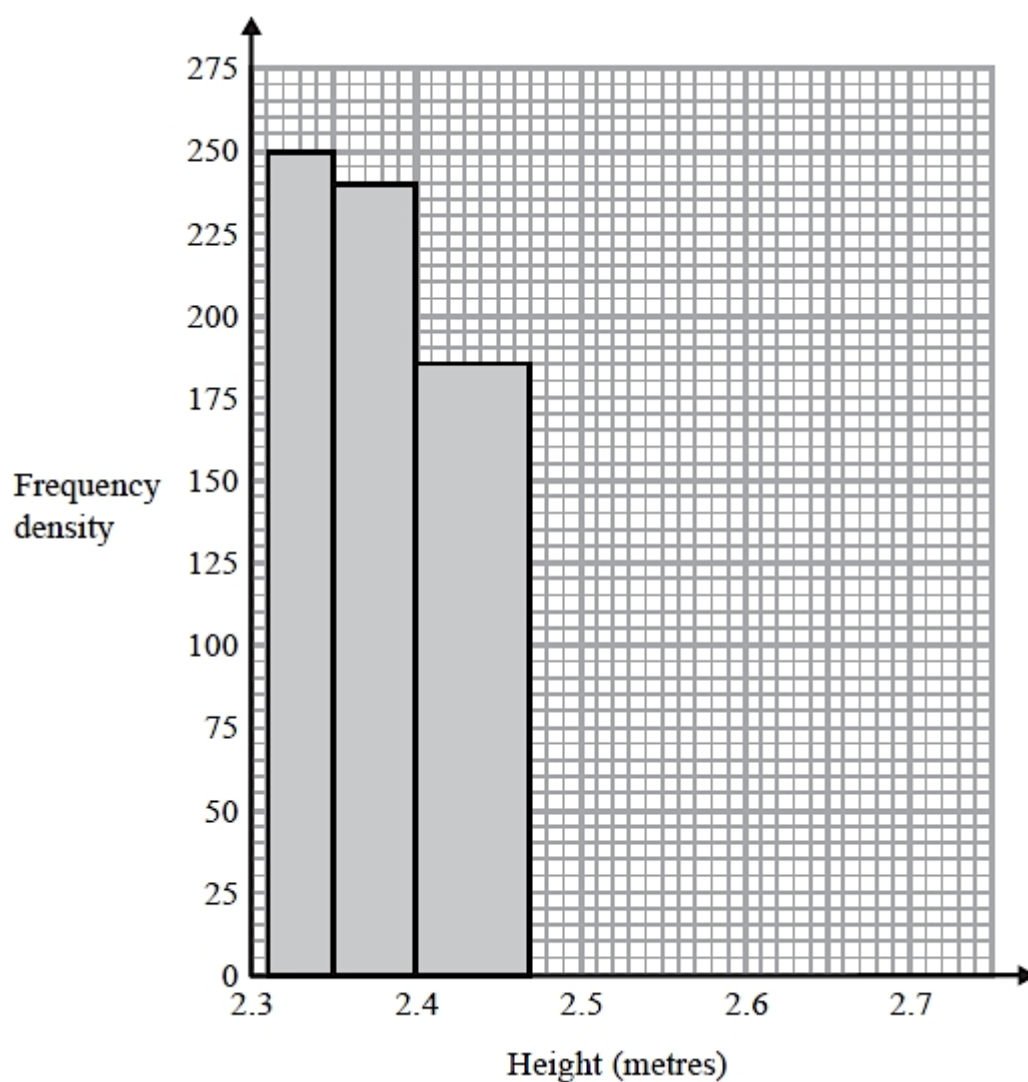


(3 marks)

The table shows information about the heights, in metres, of 45 of the world's tallest men.

Height (h metres)	Number of men
$2.31 < h \leq 2.35$	10
$2.35 < h \leq 2.40$	12
$2.40 < h \leq 2.47$	13
$2.47 < h \leq 2.72$	10

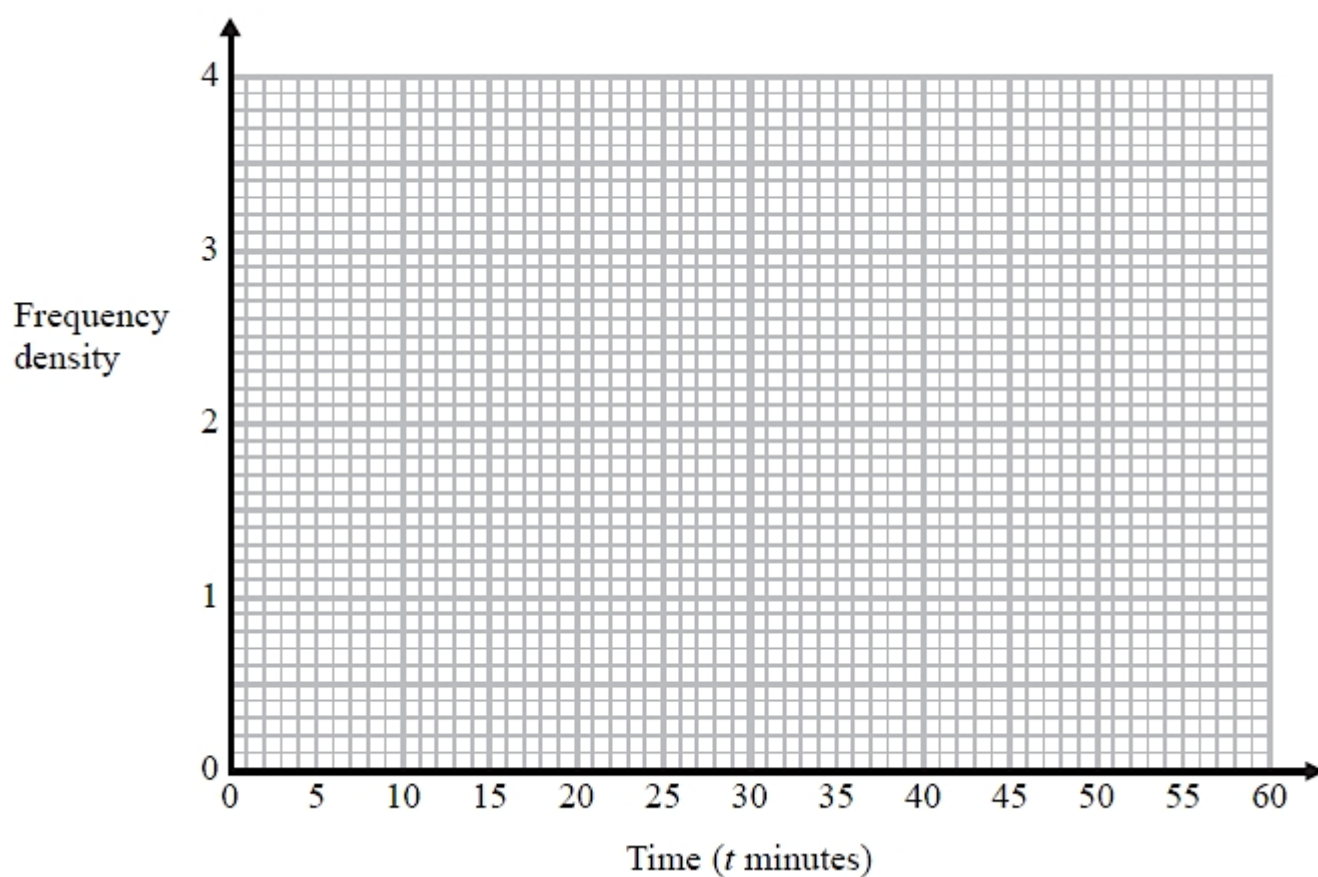
Use the information in the table to complete the histogram.



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.

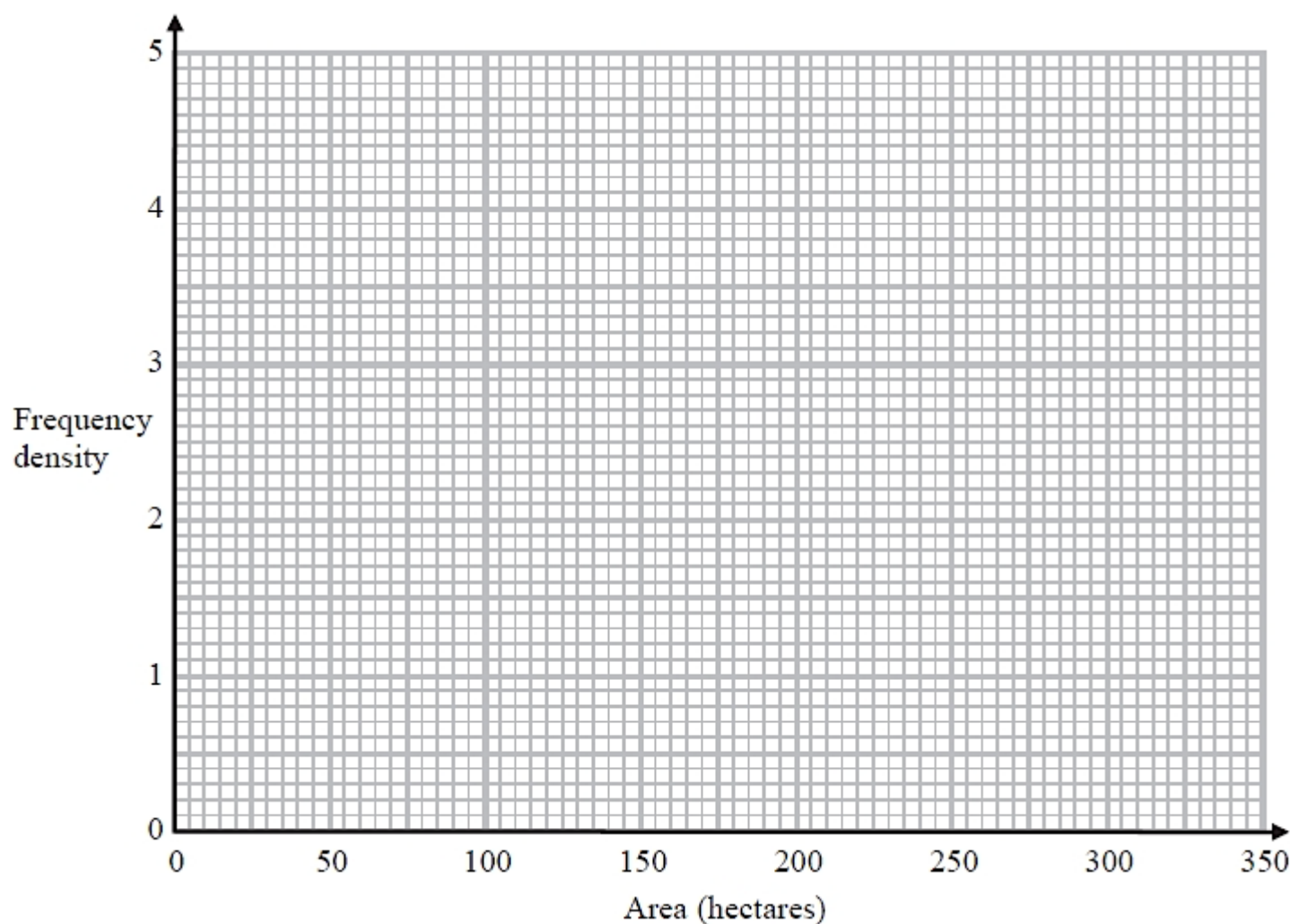


(3 marks)

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.

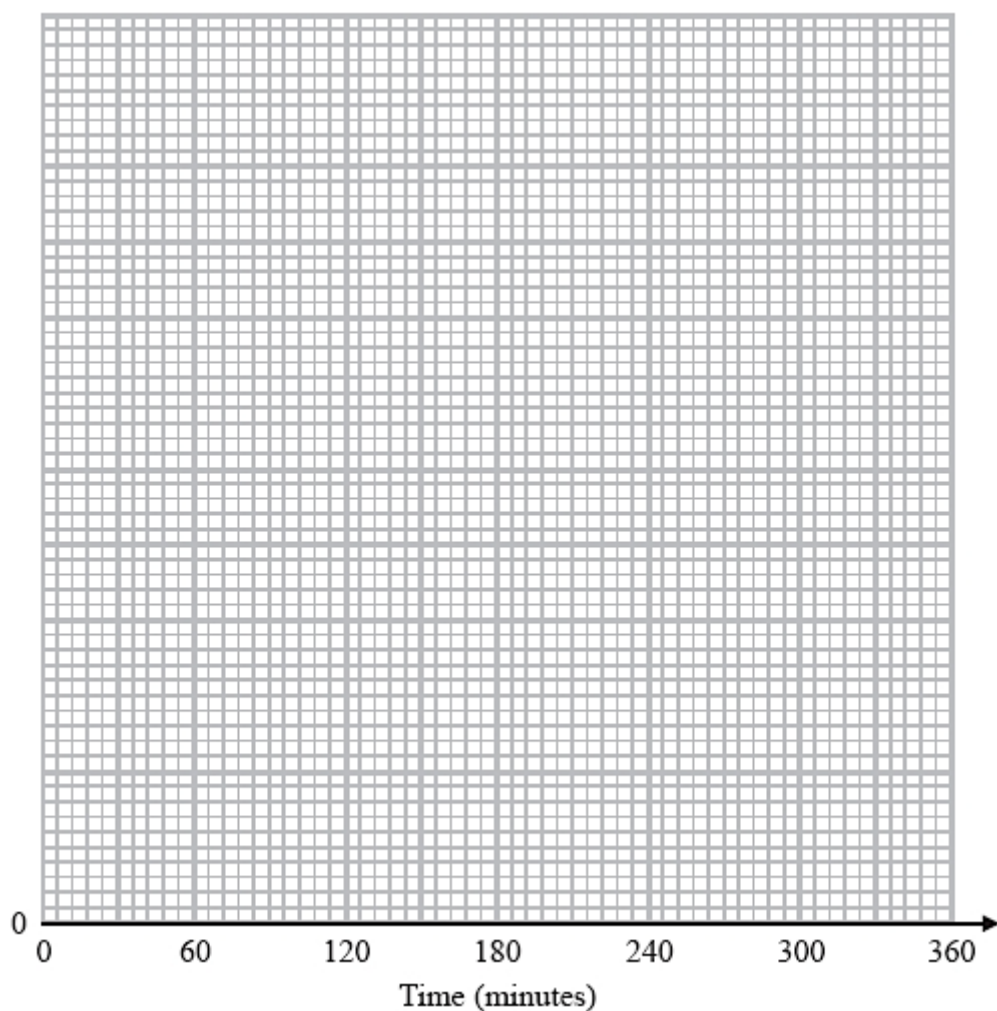


(3 marks)

The table gives information about the times, in minutes, some people waited in the accident and emergency department at a hospital.

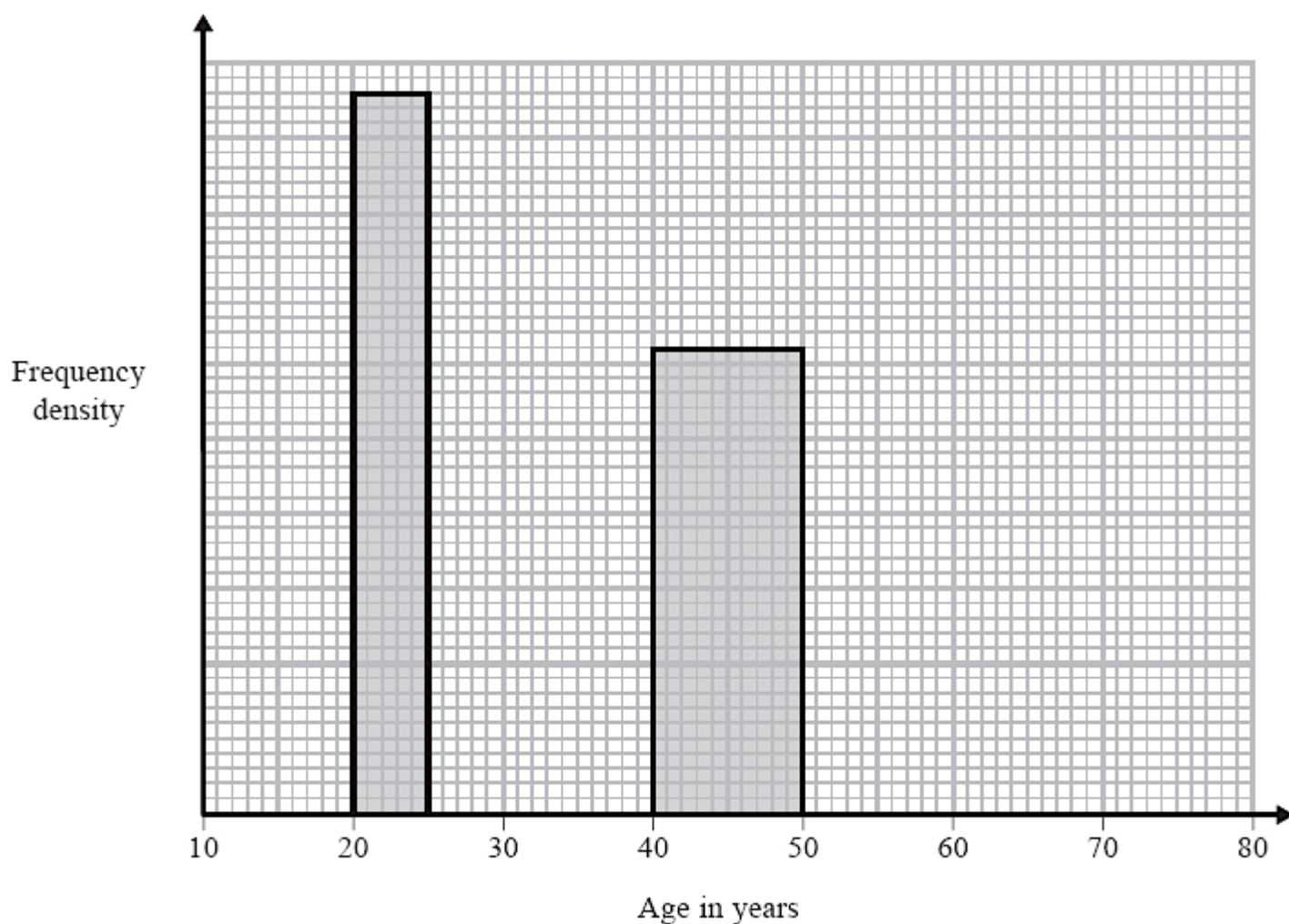
Time (t minutes)	Frequency
$0 < t \leq 30$	60
$30 < t \leq 90$	270
$90 < t \leq 120$	150
$120 < t \leq 240$	156
$240 < t \leq 300$	24

On the grid, draw a histogram for this information.



(3 marks)

The incomplete histogram and the incomplete table show information about the ages of people watching a film in a cinema.



Age (a years)	Number of people
$10 \leq a < 20$	38
$20 \leq a < 25$	24
$25 \leq a < 40$	63
$40 \leq a < 50$	
$50 \leq a < 80$	24

(a) Use the histogram to complete the table.

(2)

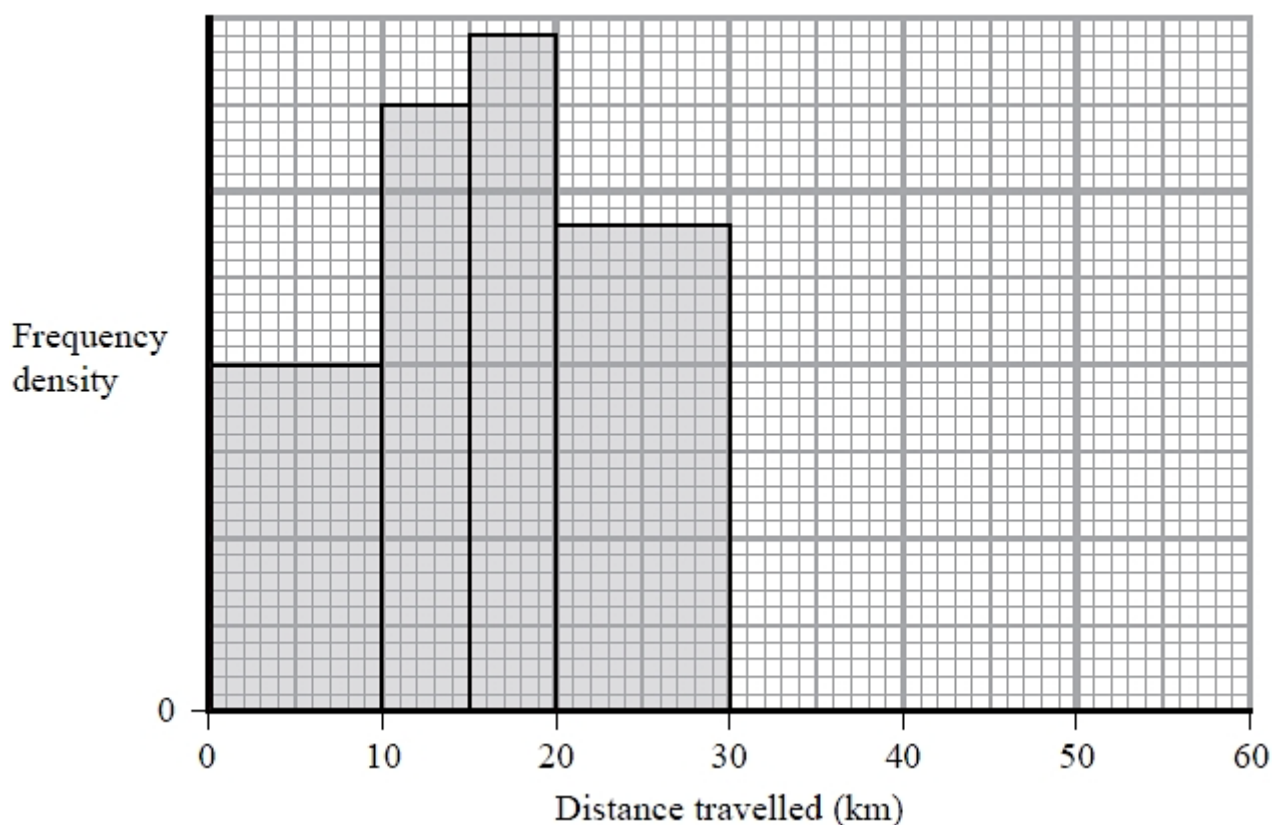
(b) Use the table to complete the histogram.

(2)

(Total for question = 4 marks)

The table and histogram give information about the distance travelled, in order to get to work, by each person working in a large store.

Distance (d km)	Frequency
$0 \leq d < 10$	40
$10 \leq d < 15$	
$15 \leq d < 20$	
$20 \leq d < 30$	
$30 \leq d < 60$	30



Using the information in the table and in the histogram,

(a) complete the table,

(2)

(b) complete the histogram.

(1)

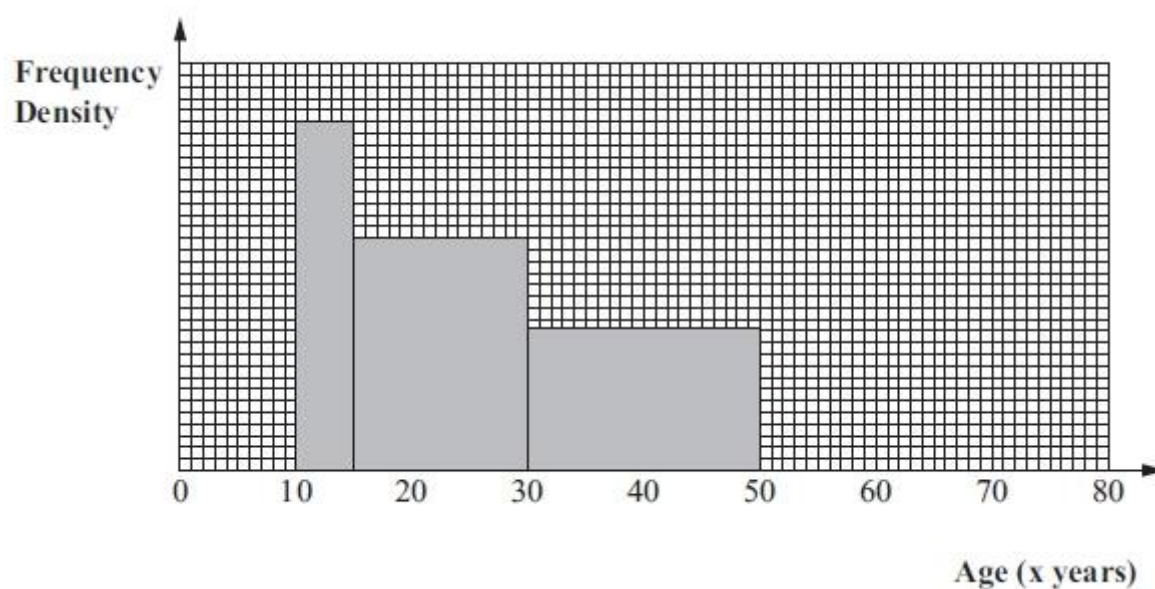
One of the people working in the store is chosen at random.

(c) Work out an estimate for the probability that the distance travelled by this person, in order to get to work, was greater than 25 km.

.....
(2)

(Total for question = 5 marks)

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.

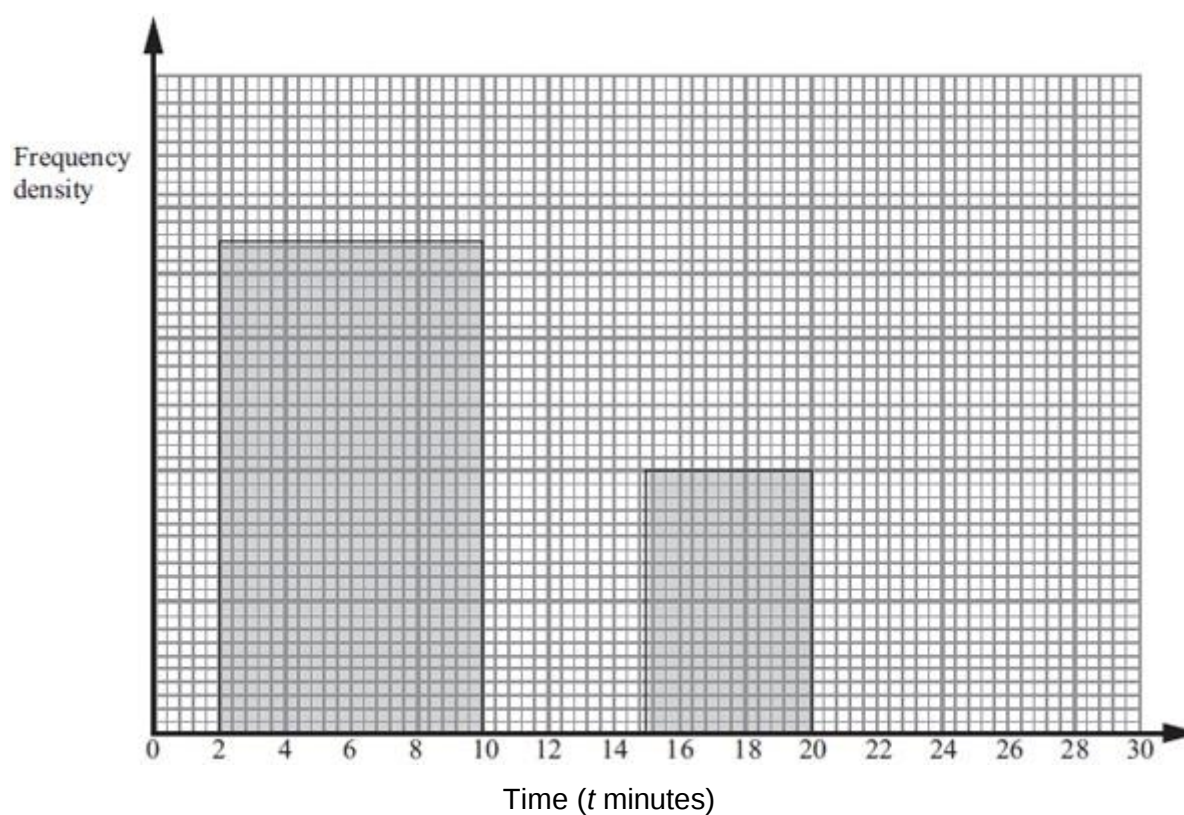
(Total for question = 4 marks)

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.

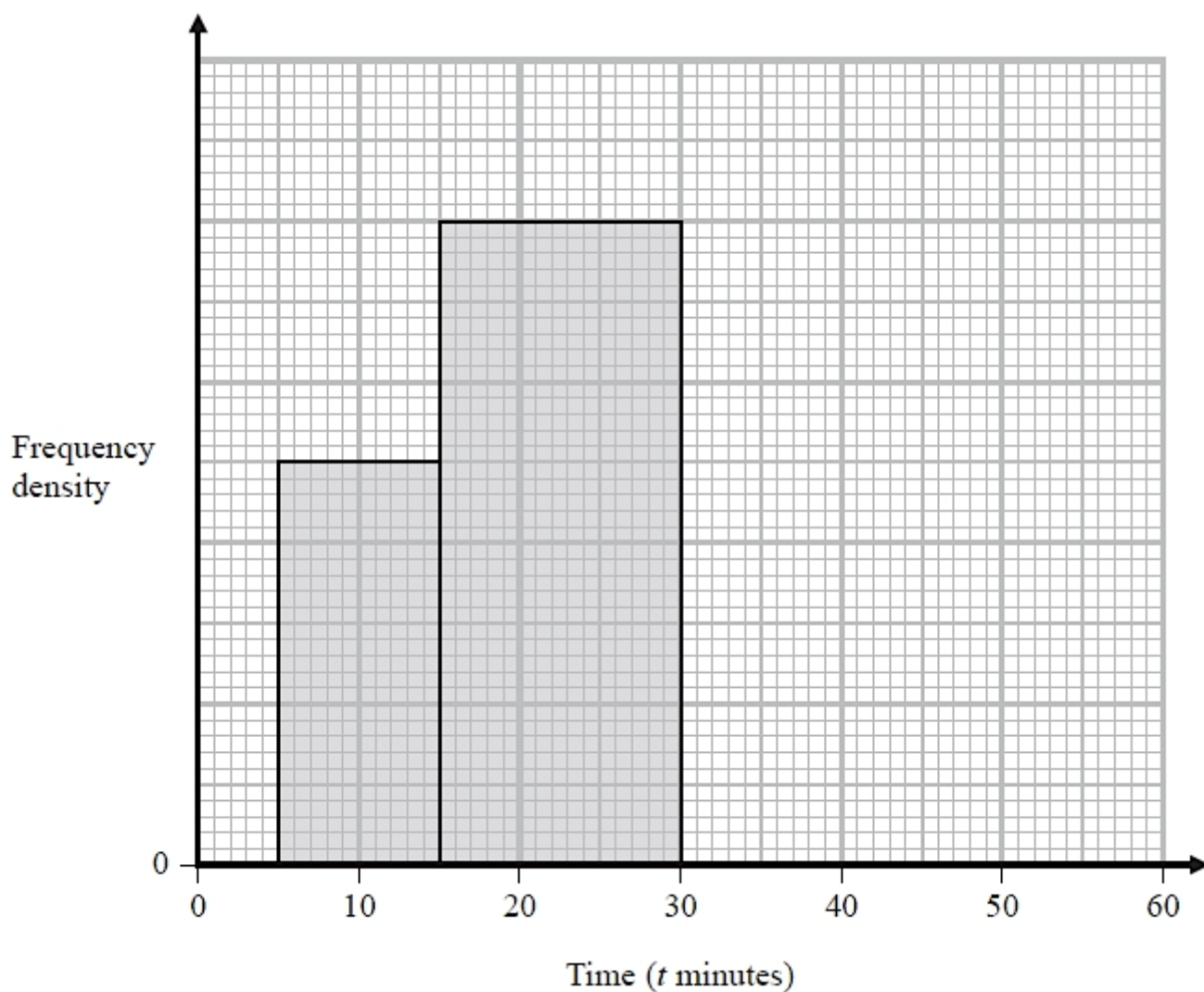
(ii) Use the table to complete the histogram.



(Total for question = 4 marks)

The incomplete table and incomplete histogram give information about the times, in minutes, that 140 people waited at a station for a train.

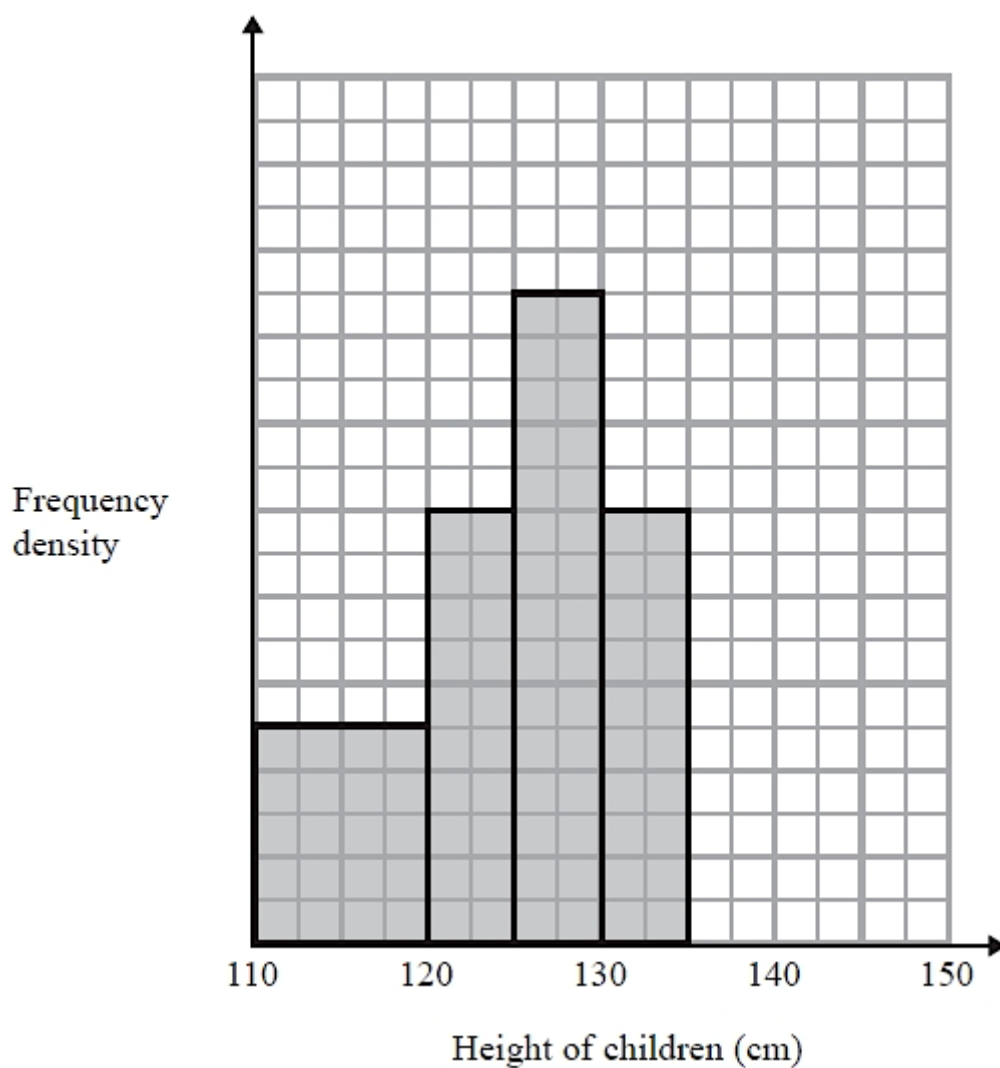
Time (t minutes)	Frequency
$0 < t \leq 5$	23
$5 < t \leq 15$	
$15 < t \leq 30$	
$30 < t \leq 40$	18
$40 < t \leq 60$	14



Complete the table and the histogram.

(Total for question = 4 marks)

The incomplete histogram shows information about the heights of a group of children.



There were 10 children with heights between 130cm and 135cm.

(a) How many children had heights between 110cm and 130cm?

.....
(3)

There were 6 children with heights between 135cm and 145cm.

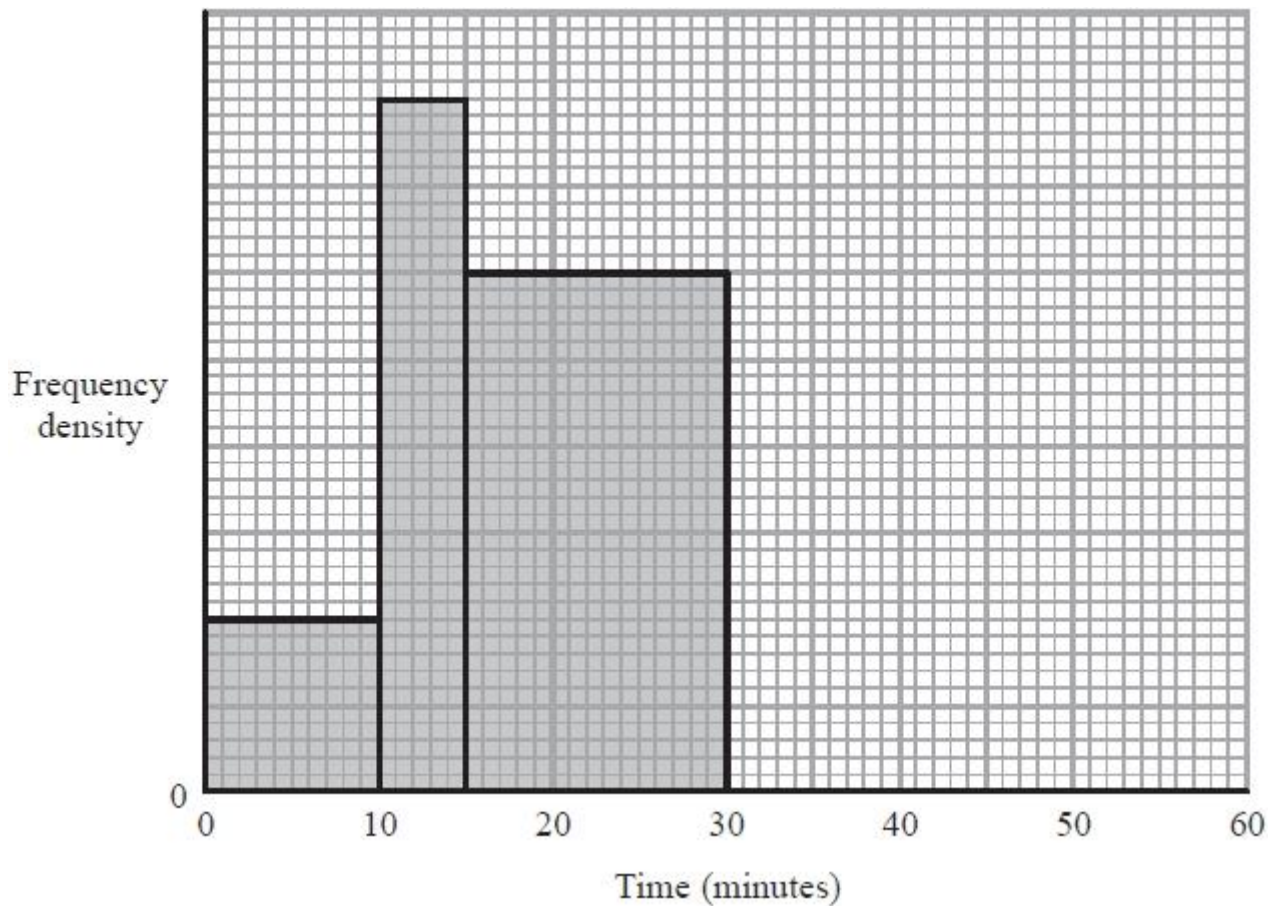
(b) Show this information on the histogram.

(1)

(Total for question = 4 marks)

Miss Cook asked each student in her class how long it took them, in minutes, to travel to school that morning.

The incomplete histogram shows information about the times it took the students who took no more than 30 minutes to travel to school.



9 students took between 15 minutes and 30 minutes to travel to school.

(a) How many students took no more than 30 minutes to travel to school?

.....
(2)

12 students took between 30 and 55 minutes to travel to school.

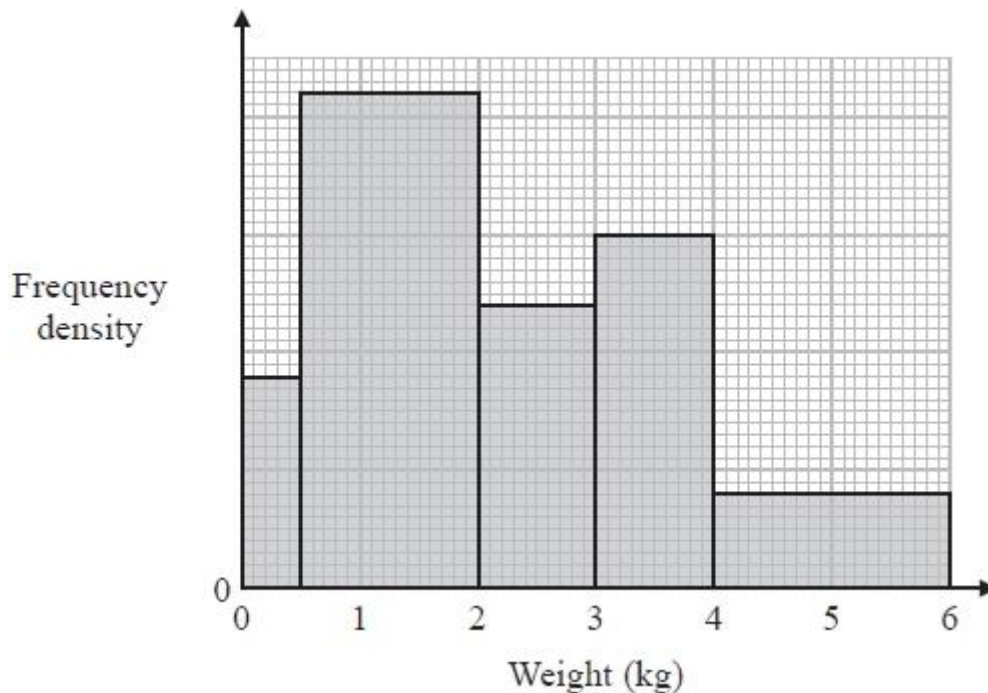
(b) Use this information to complete the histogram.

(2)

(Total for question = 4 marks)

A postman records the weight of each parcel that he delivers.

The histogram shows information about the weights of all the parcels that the postman delivered last Monday. No parcels weighed more than 6 kg.



63 of the parcels that the postman delivered last Monday each had a weight between 0.5 kg and 2 kg.

(a) Work out the total number of parcels the postman delivered last Monday.

.....
(3)

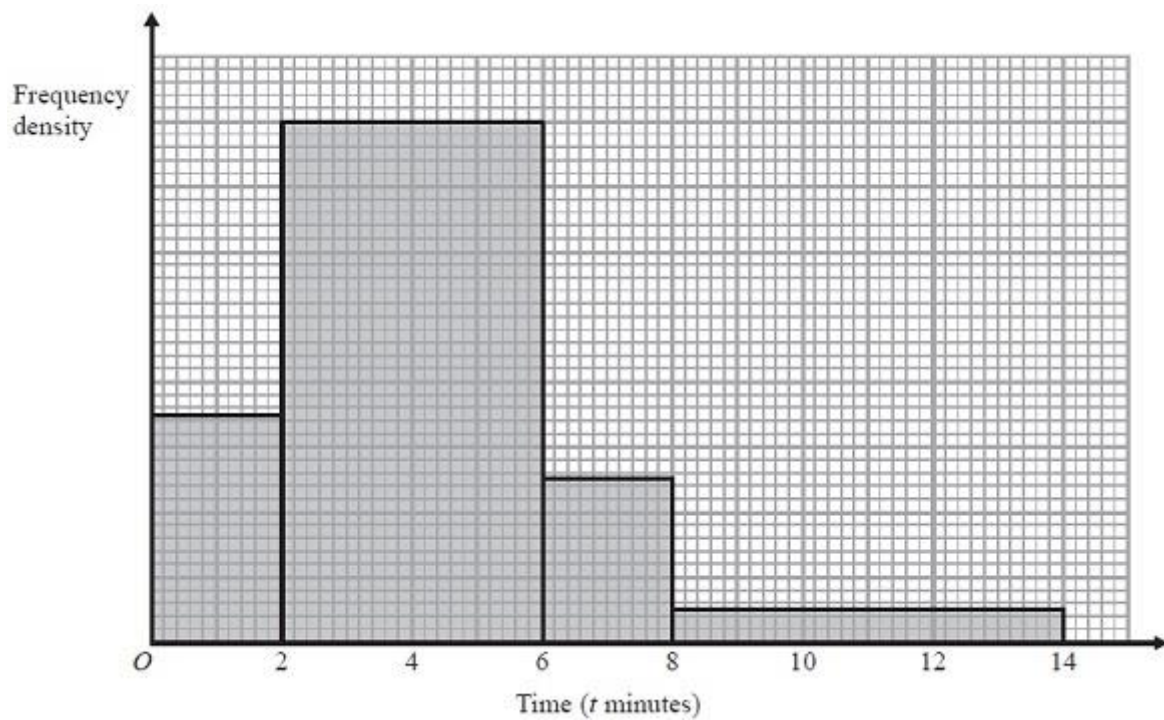
The postman picks at random two of the records of the parcels he delivered last Monday.

(b) Work out an estimate for the probability that each parcel weighed more than 2.25 kg.

.....
(3)

(Total for question = 6 marks)

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



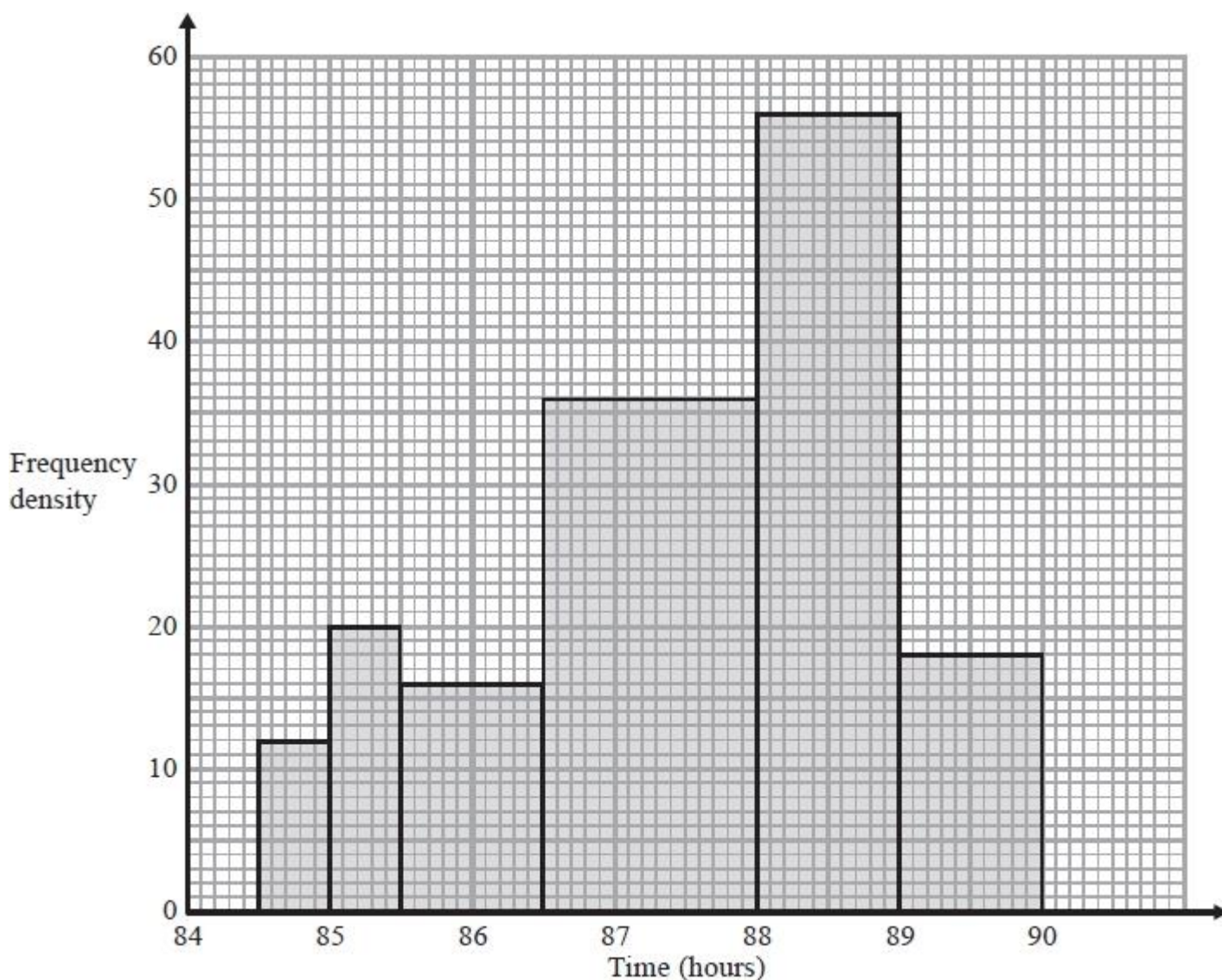
28 customers spent 2 minutes or less in the post office.

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

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(Total for Question is 3 marks)

The histogram shows information about the times taken by 160 cyclists to complete the Tour de France cycle race.



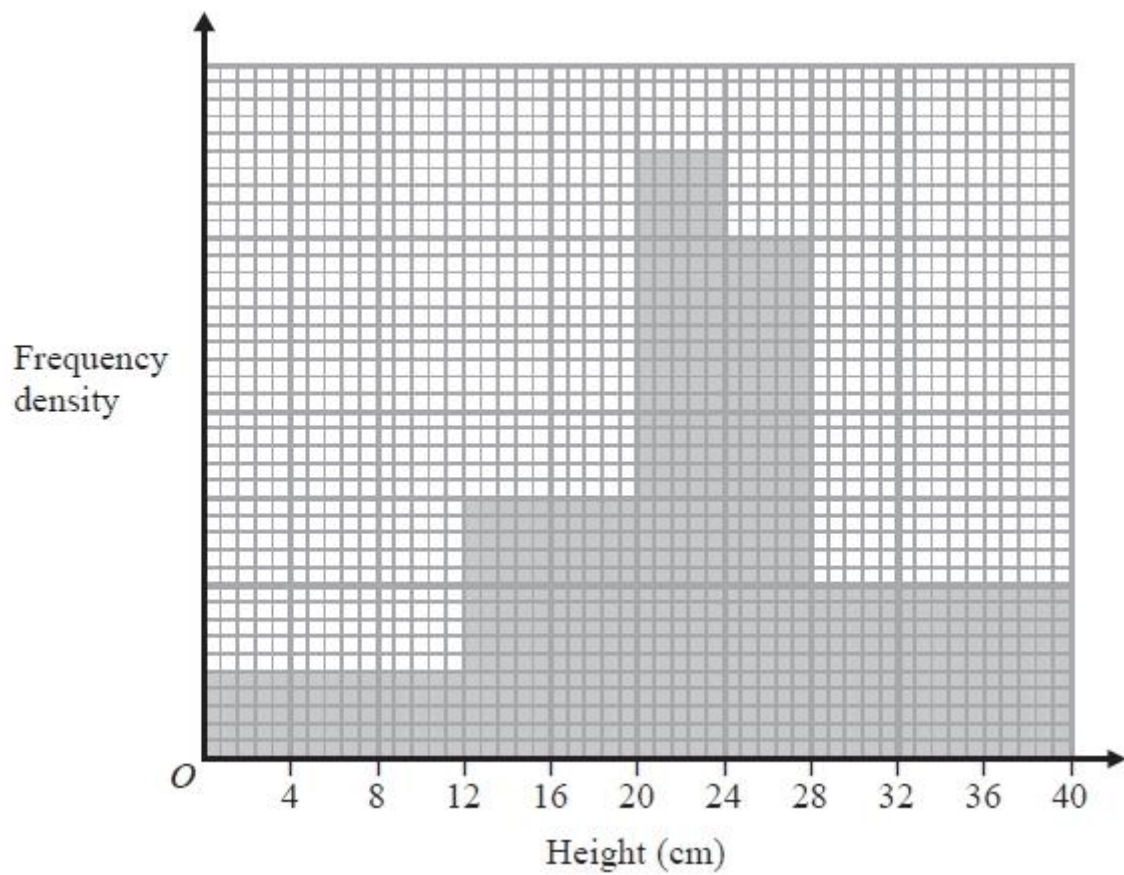
6 cyclists took less than 85 hours.

(a) Work out an estimate for the number of the 160 cyclists who took less than 86 hours.

.....
(2)

(b) For these 160 cyclists, work out an estimate for the time taken by the cyclist who finished in 50th position.

..... hours
(2)



The histogram gives information about the heights of some plants.

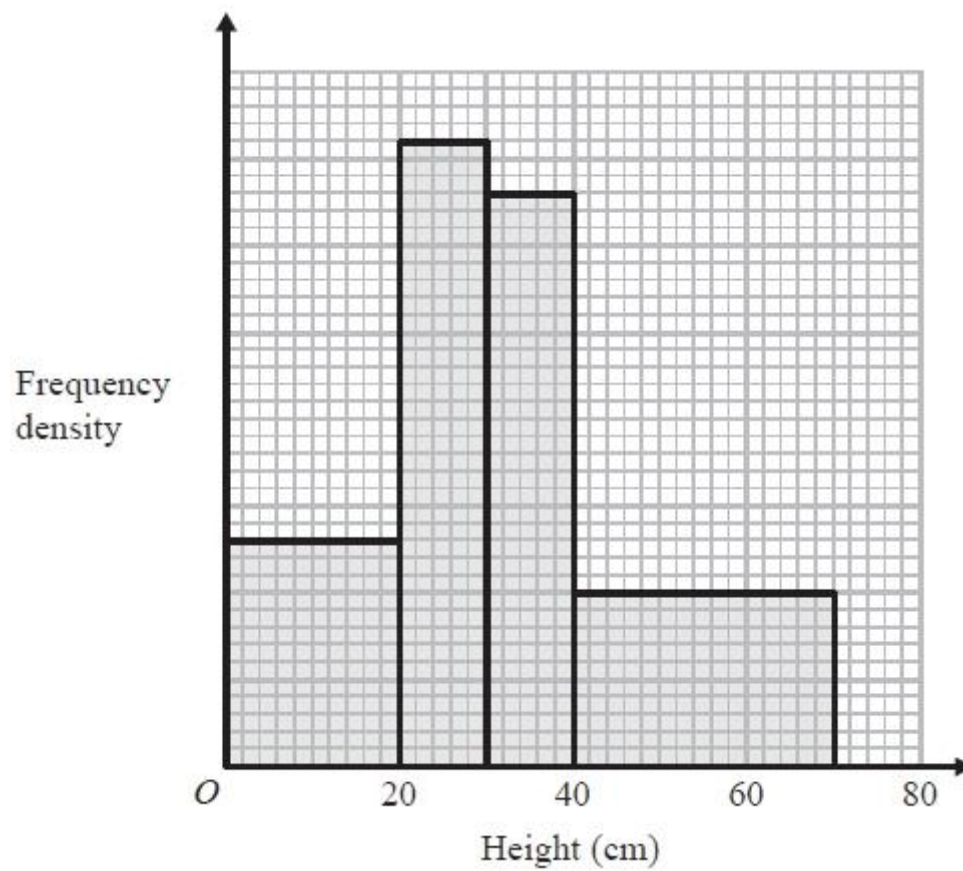
There are 360 plants with a height of 20 cm or less.

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

.....

(Total for question = 3 marks)

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



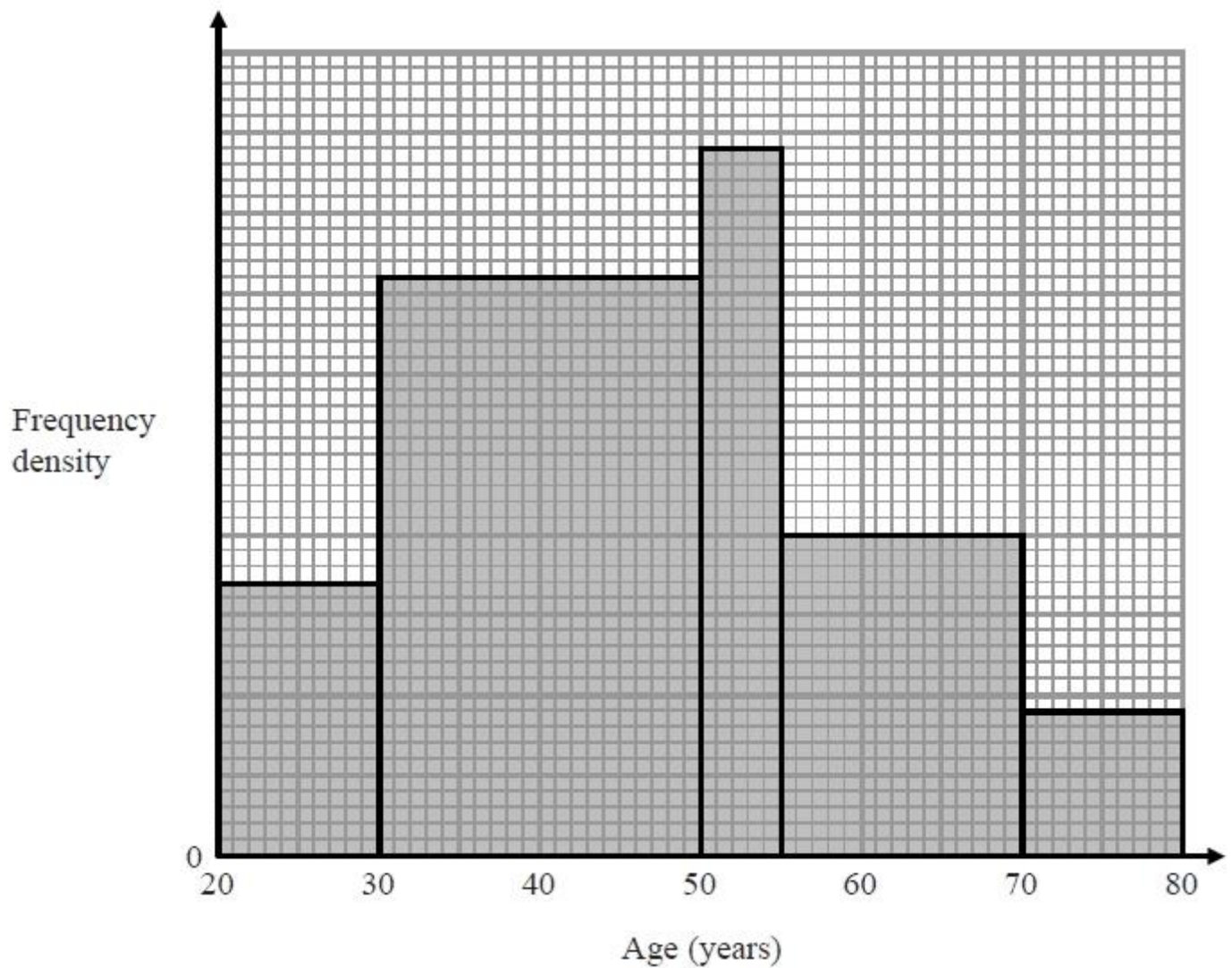
26 plants have a height of less than 20 cm.

Work out the total number of tomato plants.

.....
(Total for question = 3 marks)

150 people took part in a survey.

The histogram shows information about the ages of these people.

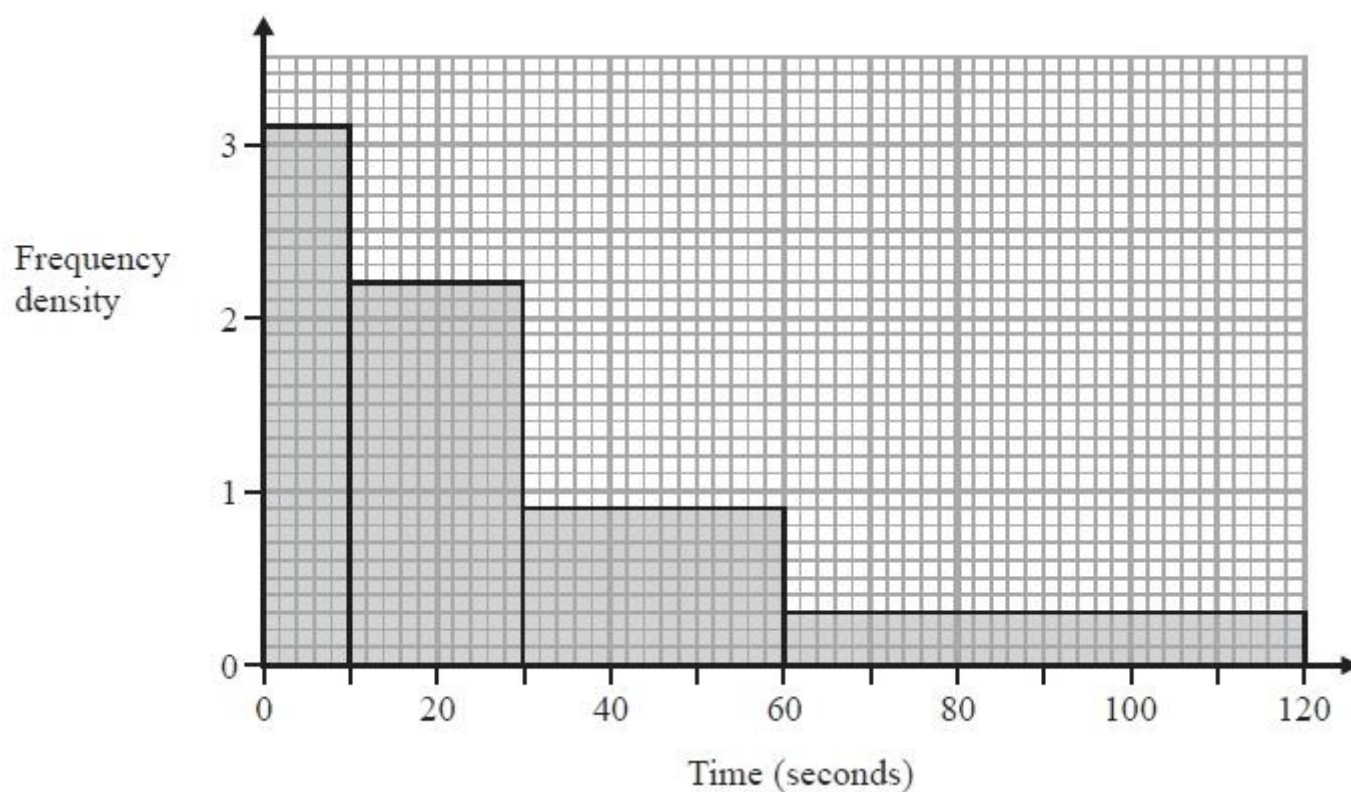


Work out how many of these 150 people are aged between 50 years and 55 years.

.....

(Total for question = 4 marks)

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

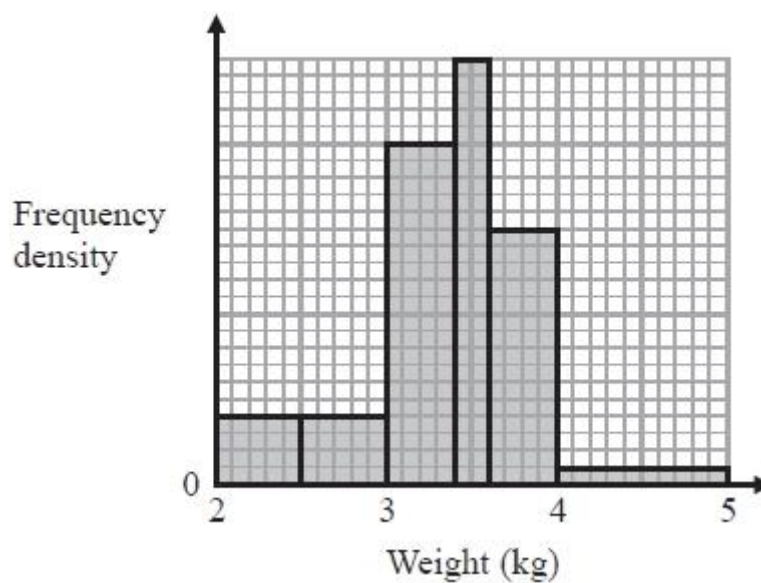


Work out an estimate for the percentage of calls that are answered in less than 40 seconds.

..... %

(Total for Question is 3 marks)

The histogram shows information about the birth weights of some babies.

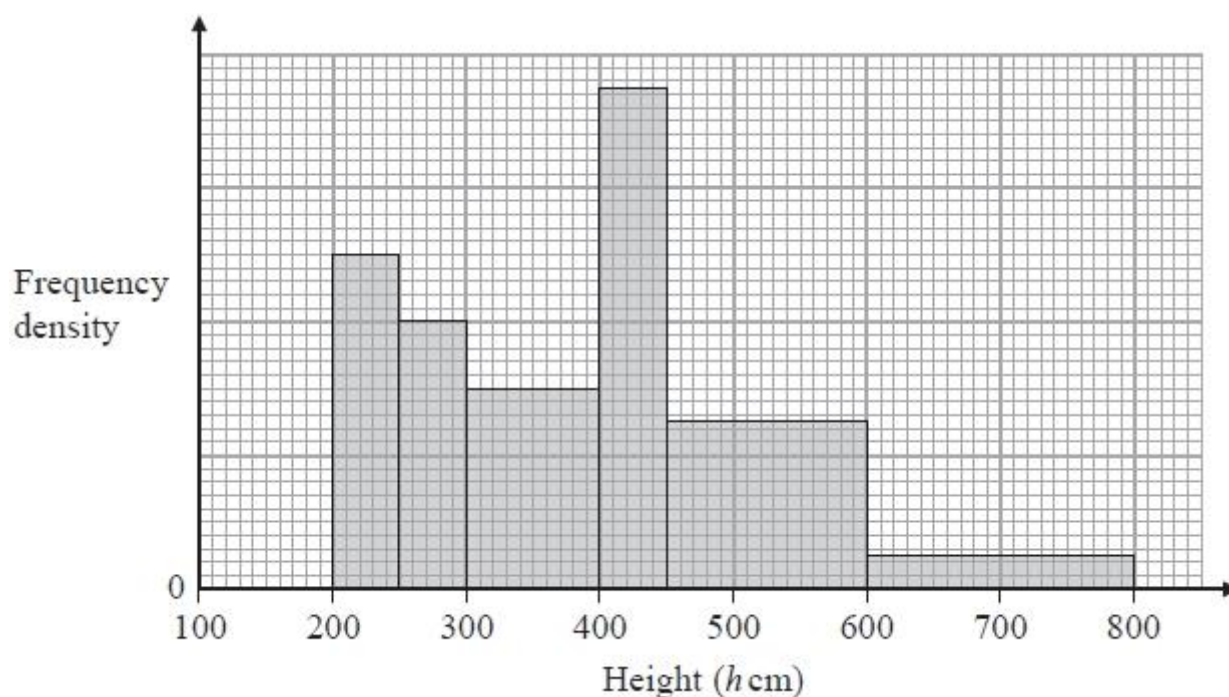


6 of these babies had a birth weight less than 2.5 kg or greater than 4 kg.

Work out the number of babies who had a birth weight between 2.5 kg and 4 kg.

.....
(Total for question = 3 marks)

The histogram gives information about the height, h cm, of each tree in part of a forest.



There are no trees for which $h \leq 200$ and for which $h > 800$

The number of trees for which $300 < h \leq 400$ is 8 fewer than the number of trees for which $400 < h \leq 500$

Work out an estimate for the number of trees in this part of the forest that have a height greater than 500 cm.

.....

(Total for question = 3 marks)