

Histograms

Mark Scheme

Level	GCSE
Subject	Maths
Exam Board	Edexcel GCSE
Topic	Histograms
Grade Level	Grade 7
Booklet	Mark Scheme

Time Allowed: 30 minutes

Score: /25

Percentage: /100

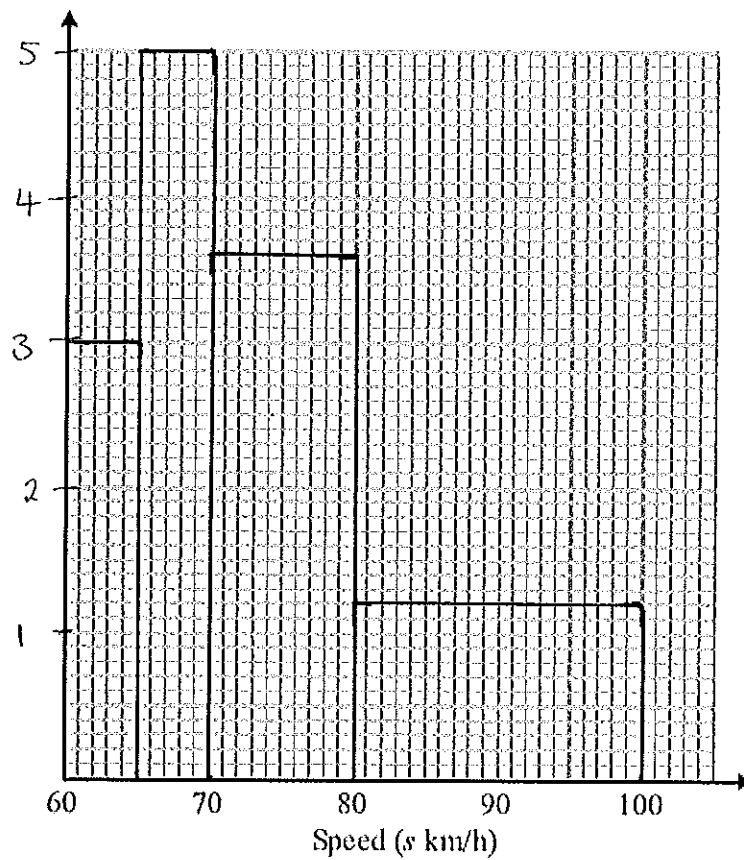
Grade Boundaries:

$$F.d = \frac{\text{Frequency}}{\text{Class Width}}$$

1. The table gives some information about the speeds, in km/h, of 100 cars.

Speed (s km/h) c.	Frequency	F.d.
$60 < s \leq 65$ (5)	15	3
$65 < s \leq 70$ (5)	25	5
$70 < s \leq 80$ (10)	36	3.6
$80 < s \leq 100$ (20)	24	1.2

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



(3)

- (b) Work out an estimate for the number of cars with a speed of more than 85 km/h.

$$15 \times 1.2$$

$$\underline{\quad 18 \quad}$$

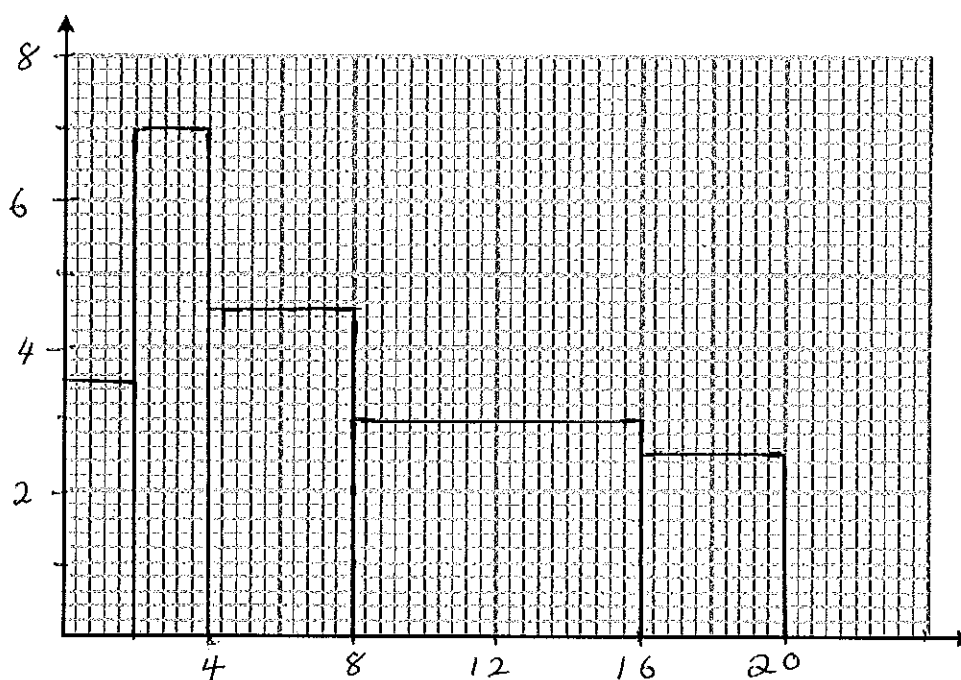
(2)

(5 marks)

2. The table gives information about the heights, h metres, of trees in a wood.

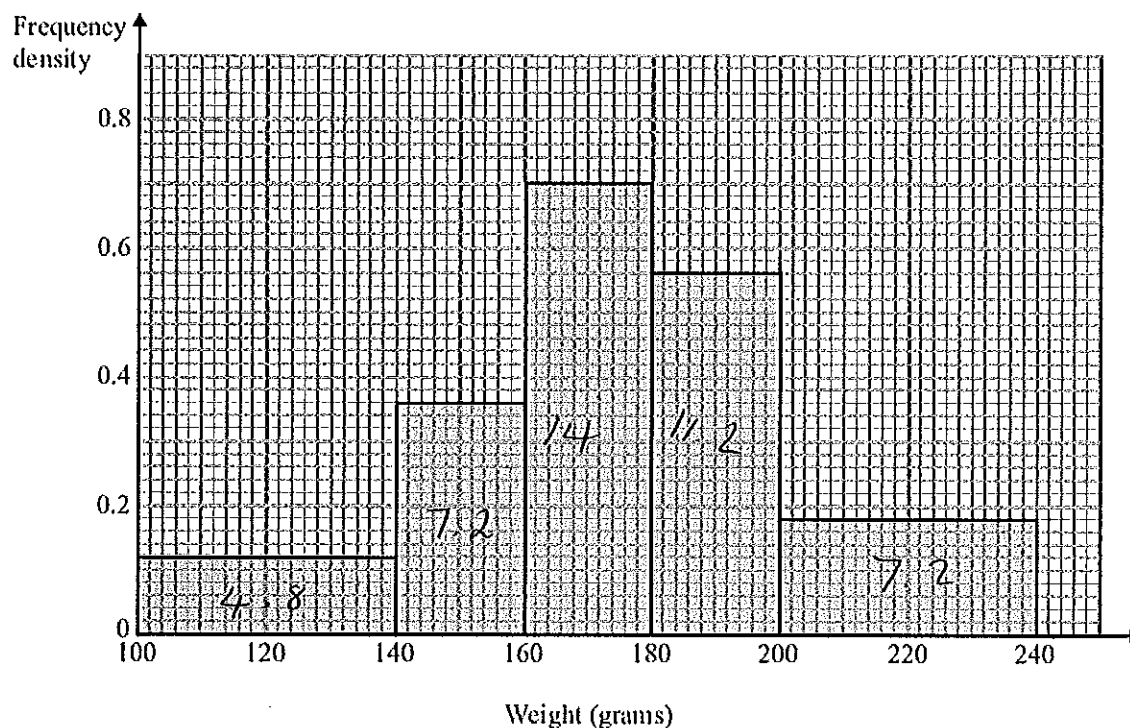
Height (h metres)	Frequency	$f.d$
$0 < h \leq 2$ 2	7	3.5
$2 < h \leq 4$ 2	14	7
$4 < h \leq 8$ 4	18	4.5
$8 < h \leq 16$ 8	24	3
$16 < h \leq 20$ 4	10	2.5

Draw a histogram to show this information.



(3 marks)

3. The histogram shows some information about the weights of a sample of apples.



Work out the proportion of apples in the sample with a weight between 140 grams and 200 grams.

$$\frac{7.2 + 14 + 11.2}{4.8 + 7.2 + 14 + 11.2 + 7.2}$$

$$\frac{32.4}{44.4} = \frac{27}{37} \quad \text{or} \quad 73.0\%$$

$$\frac{27}{37}$$

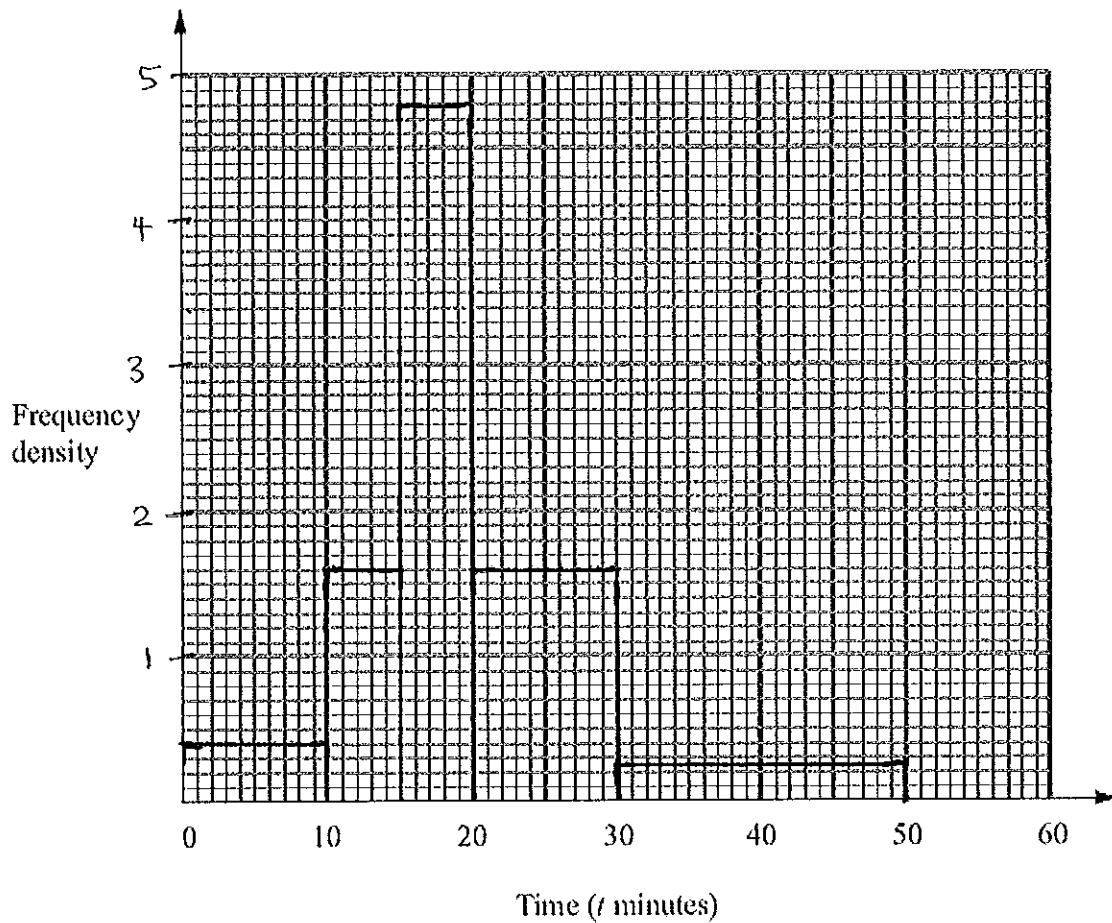
(4 marks)

4. The table shows information about the lengths of time, t minutes, it took some students to do their maths homework last week.

Time (t minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 15$	8
$15 < t \leq 20$	24
$20 < t \leq 30$	16
$30 < t \leq 50$	5

$F.d.$
 0.4
 1.6
 4.8
 1.6
 0.25

Draw a histogram for this information.



(Total 3 marks)

5. The table shows information about the total times that 35 students spent using their mobile phones one week.

Time (h hours)	Frequency
$0 \leq h < \frac{1}{2}$	8
$\frac{1}{2} \leq h < 1$	7
$1 \leq h < 2$	11
$2 \leq h < 4$	9

F. d

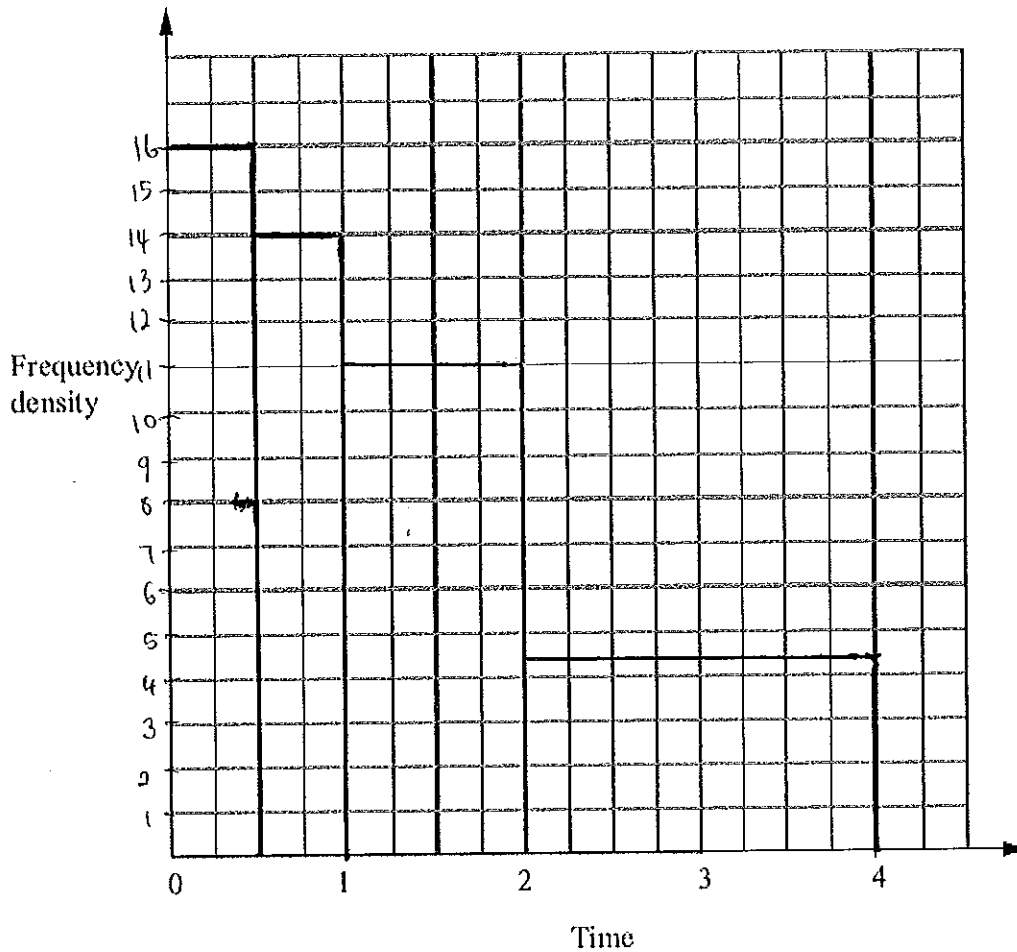
16

14

11

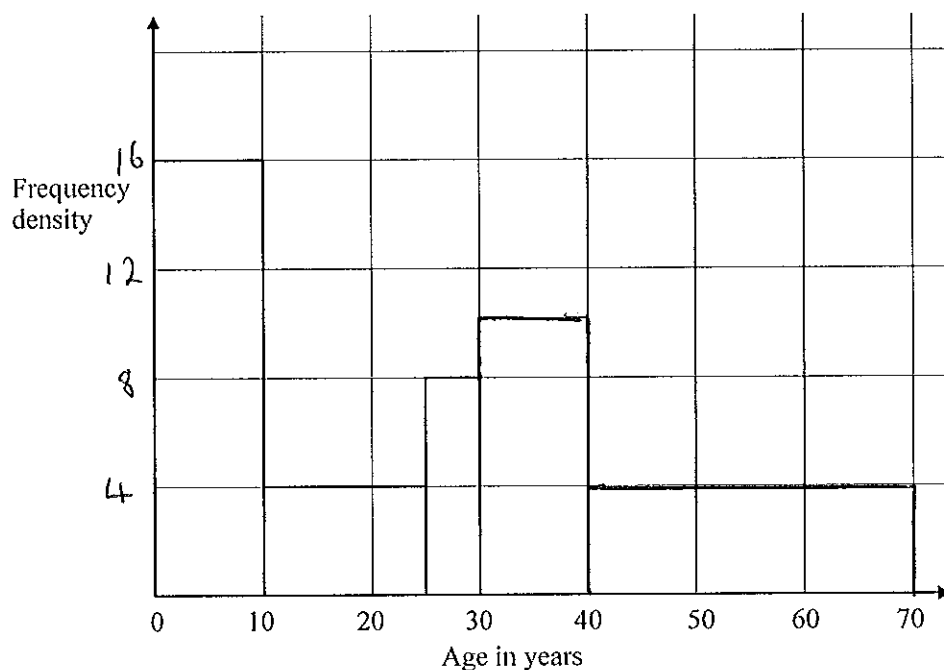
4.5

On the grid below, draw a histogram for this information.



(Total for Question 23 = 3 marks)

6. The incomplete table and histogram give some information about the ages of the people who live in a village.



- (a) Use the information in the histogram to complete the frequency table below.

Age (x) in years	Frequency
$0 < x \leq 10$	160
$10 < x \leq 25$	60
$25 < x \leq 30$	40
$30 < x \leq 40$	100
$40 < x \leq 70$	120

F.d
16
4
8
10
4

(2)

- (b) Complete the histogram.

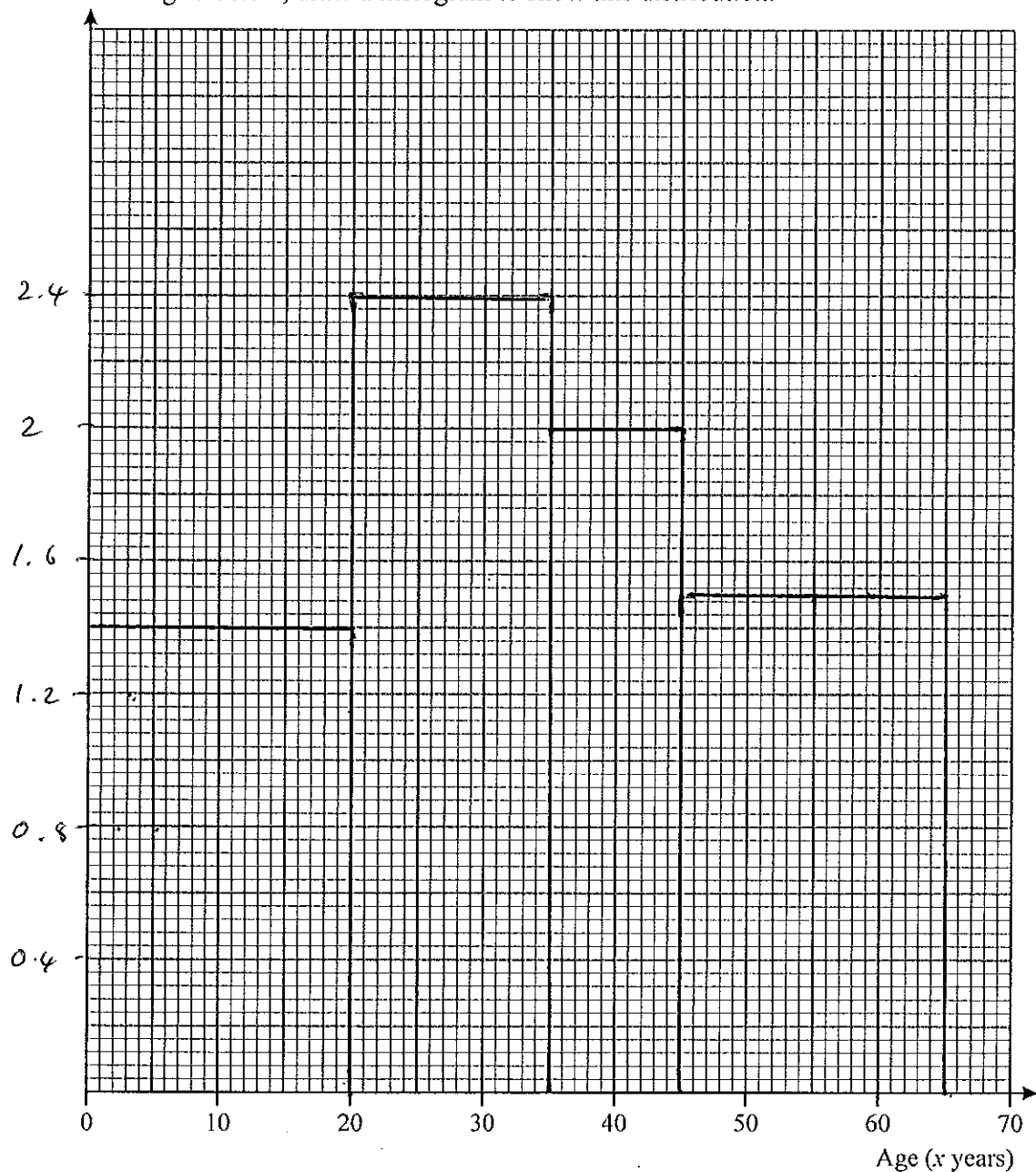
(2)

(Total 4 marks)

7. The table shows the distribution of the ages of passengers travelling on a plane from London to Belfast.

Age (x years)	Frequency	$F.d$
$0 < x \leq 20$	28	1.4
$20 < x \leq 35$	36	2.4
$35 < x \leq 45$	20	2
$45 < x \leq 65$	30	1.5

On the grid below, draw a histogram to show this distribution.



(Total 3 marks)