



# Topical Worksheets for Cambridge O LEVEL Mathematics D (4024)

**Statistics**

1<sup>st</sup> edition, for examination until 2025

1 The table shows the number of people in different age groups at a cinema.

Age ( $y$ years)	$15 < y \leq 25$	$25 < y \leq 30$	$30 < y \leq 50$	$50 < y \leq 80$
Number of people	35	32	44	12

Dexter draws a histogram to show this information.  
 The height of the bar he draws for the group  $15 < y \leq 25$  is 7 cm.

Calculate the height of each of the remaining bars.

- $25 < y \leq 30$ ..... cm
  - $30 < y \leq 50$ ..... cm
  - $50 < y \leq 80$ ..... cm [3]
- [Total: 3]

2 The heights,  $h$  metres, of the 120 boys in an athletics club are recorded.  
 The table shows information about the heights of the boys.

Height ( $h$ metres)	$1.3 < h \leq 1.4$	$1.4 < h \leq 1.5$	$1.5 < h \leq 1.6$	$1.6 < h \leq 1.7$	$1.7 < h \leq 1.8$	$1.8 < h \leq 1.9$
Frequency	7	18	30	24	27	14

(a) (i) Write down the modal class.

.....  $< h \leq$  ..... [1]

(ii) Calculate an estimate of the mean height.

..... m [4]

(b) (i) One boy is chosen at random from the club.

Find the probability that this boy has a height greater than 1.8 m.

..... [1]

(ii) Three boys are chosen at random from the club.

Calculate the probability that one of the boys has a height greater than 1.8 m and the other two boys each have a height of 1.4 m or less.

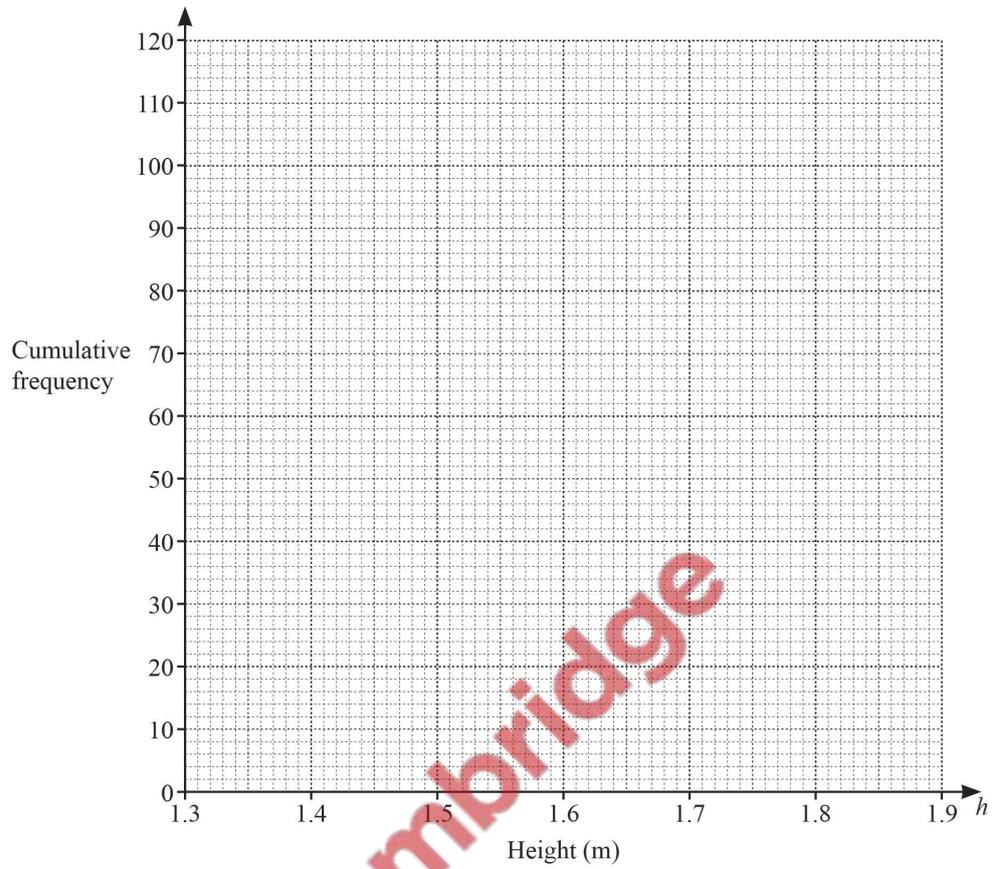
..... [4]

(c) (i) Use the frequency table to complete the cumulative frequency table.

Height ( $h$ metres)	$h \leq 1.4$	$h \leq 1.5$	$h \leq 1.6$	$h \leq 1.7$	$h \leq 1.8$	$h \leq 1.9$
Cumulative frequency	7	25				

[2]

(ii) On the grid, draw a cumulative frequency diagram to show this information.



[3]

(d) Use your diagram to find an estimate for

(i) the median height,

..... m [1]

(ii) the 40th percentile.

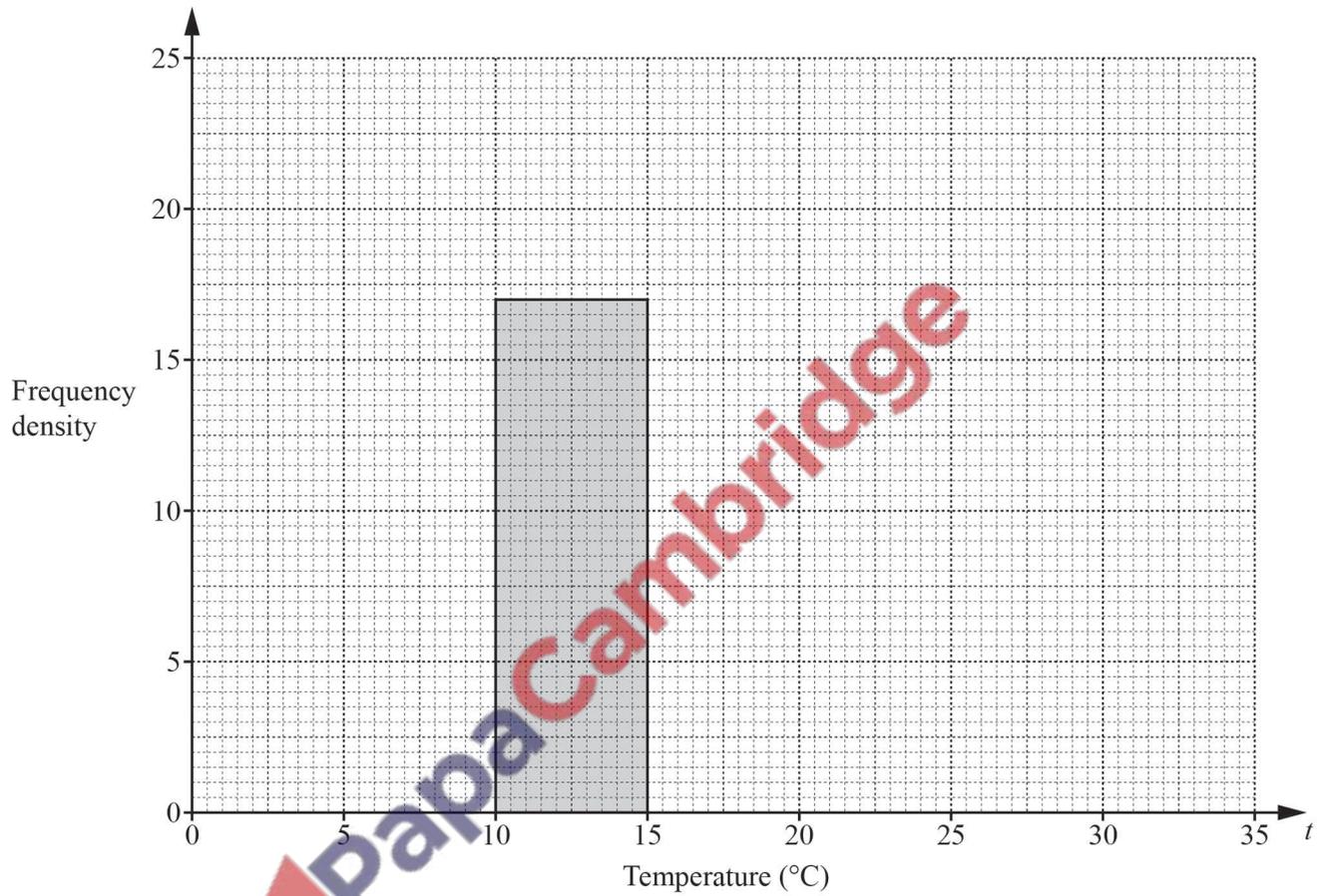
..... m [2]

[Total: 18]

- 3 During one year the midday temperatures,  $t^{\circ}\text{C}$ , in Zedford were recorded. The table shows the results.

Temperature ( $t^{\circ}\text{C}$ )	$0 < t \leq 10$	$10 < t \leq 15$	$15 < t \leq 20$	$20 < t \leq 25$	$25 < t \leq 35$
Number of days	50	85	100	120	10

Complete the histogram to show the information in the table.



[4]

[Total: 4]

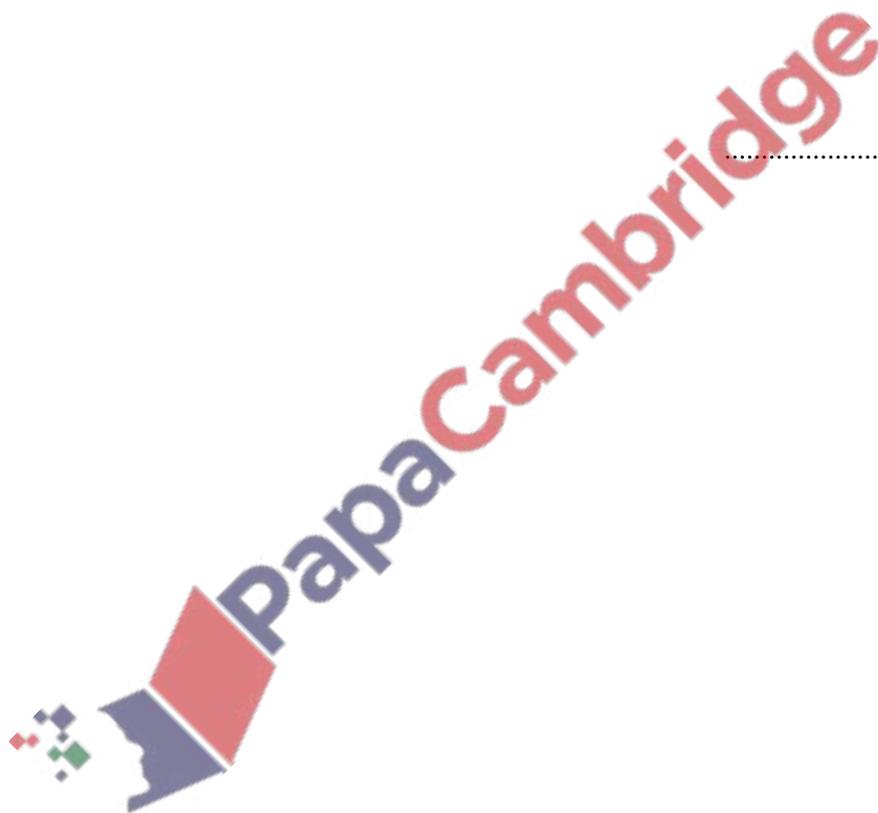
- 4 During one year the midday temperatures,  $t^{\circ}\text{C}$ , in Zedford were recorded. The table shows the results.

Temperature ( $t^{\circ}\text{C}$ )	$0 < t \leq 10$	$10 < t \leq 15$	$15 < t \leq 20$	$20 < t \leq 25$	$25 < t \leq 35$
Number of days	50	85	100	120	10

Calculate an estimate of the mean.

..... $^{\circ}\text{C}$  [4]

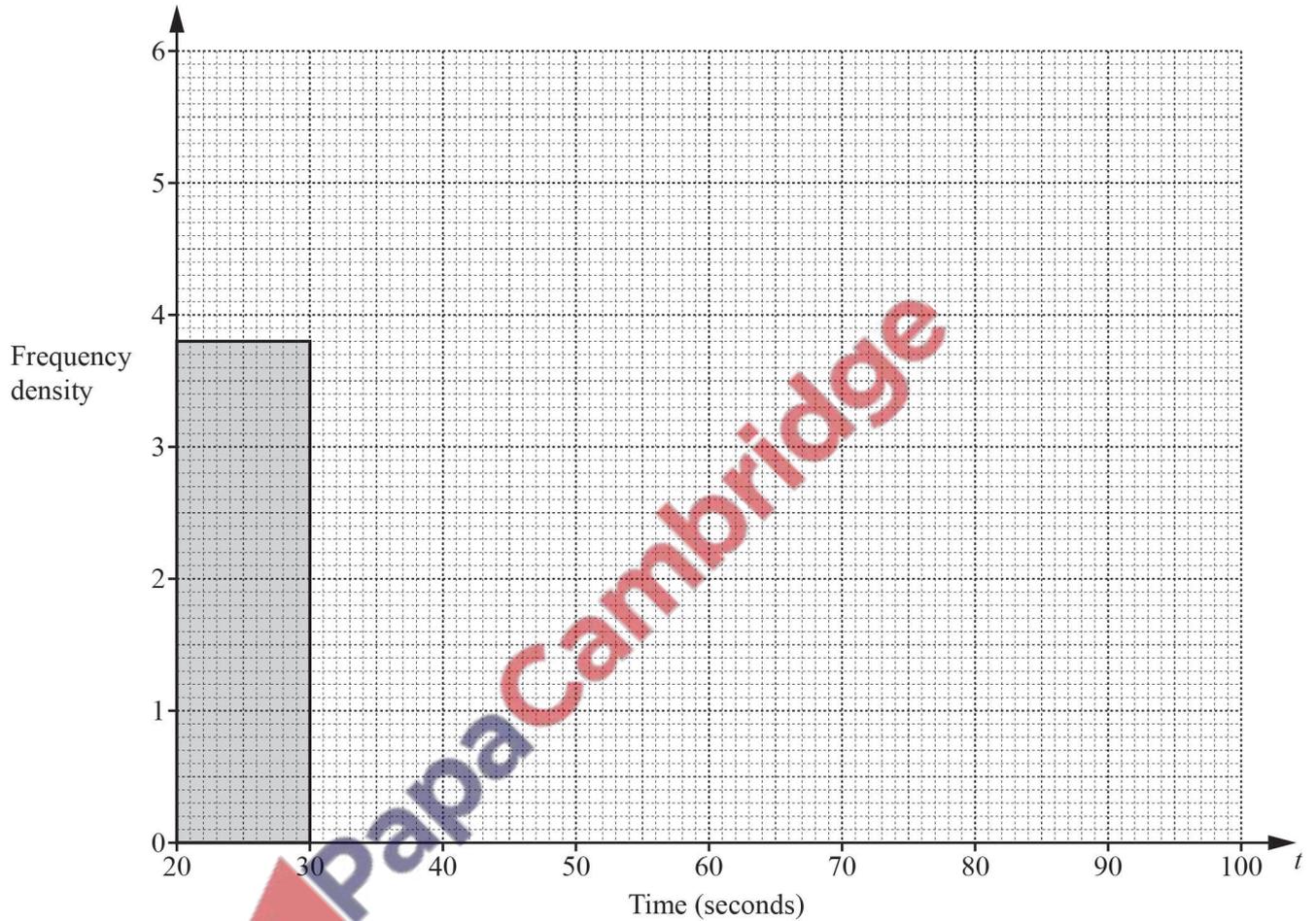
[Total: 4]



- 5 The table shows the time,  $t$  seconds, taken by each of 120 boys to solve a puzzle.

Time ( $t$ seconds)	$20 < t \leq 30$	$30 < t \leq 35$	$35 < t \leq 40$	$40 < t \leq 60$	$60 < t \leq 100$
Frequency	38	27	21	16	18

On the grid, complete the histogram to show the information in the frequency table.



[4]

[Total: 4]