

1. The table shows information about the heights of 80 children.

Height (h cm)	Frequency
$130 < h \leq 140$	4
$140 < h \leq 150$	11
$150 < h \leq 160$	24
$160 < h \leq 170$	22
$170 < h \leq 180$	19

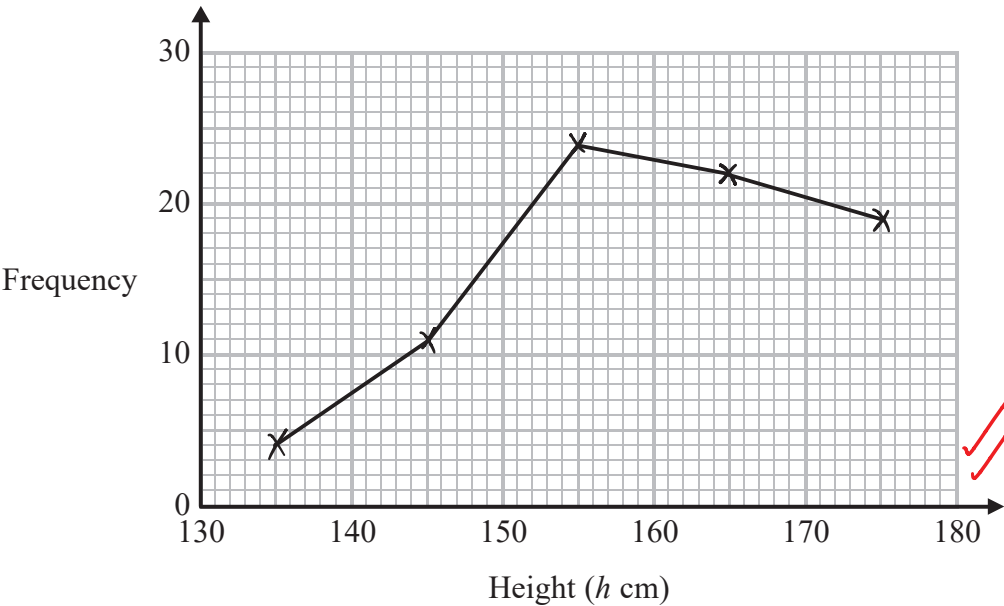
15 $130 < h \leq 140$
39 $130 < h \leq 160$
61 $130 < h \leq 170$

(a) Find the class interval that contains the median.

median = middle value when arranged in ascending order

160 < h ≤ 170 ✓
(1)

(b) Draw a frequency polygon for the information in the table.



✓
✓

(2)

(Total for Question 1 is 3 marks)

2. The table shows information about the heights of 80 plants.

Midpoint	Height (h cm)	Frequency	C. f.
15	$10 < h \leq 20$	7	7
25	$20 < h \leq 30$	13	20
35	$30 < h \leq 40$	14	34
45	$40 < h \leq 50$	12	46
55	$50 < h \leq 60$	16	62
65	$60 < h \leq 70$	18	80

- (a) Find the class interval that contains the median.

$$80 \text{ plants. } \frac{80}{2} = 40$$

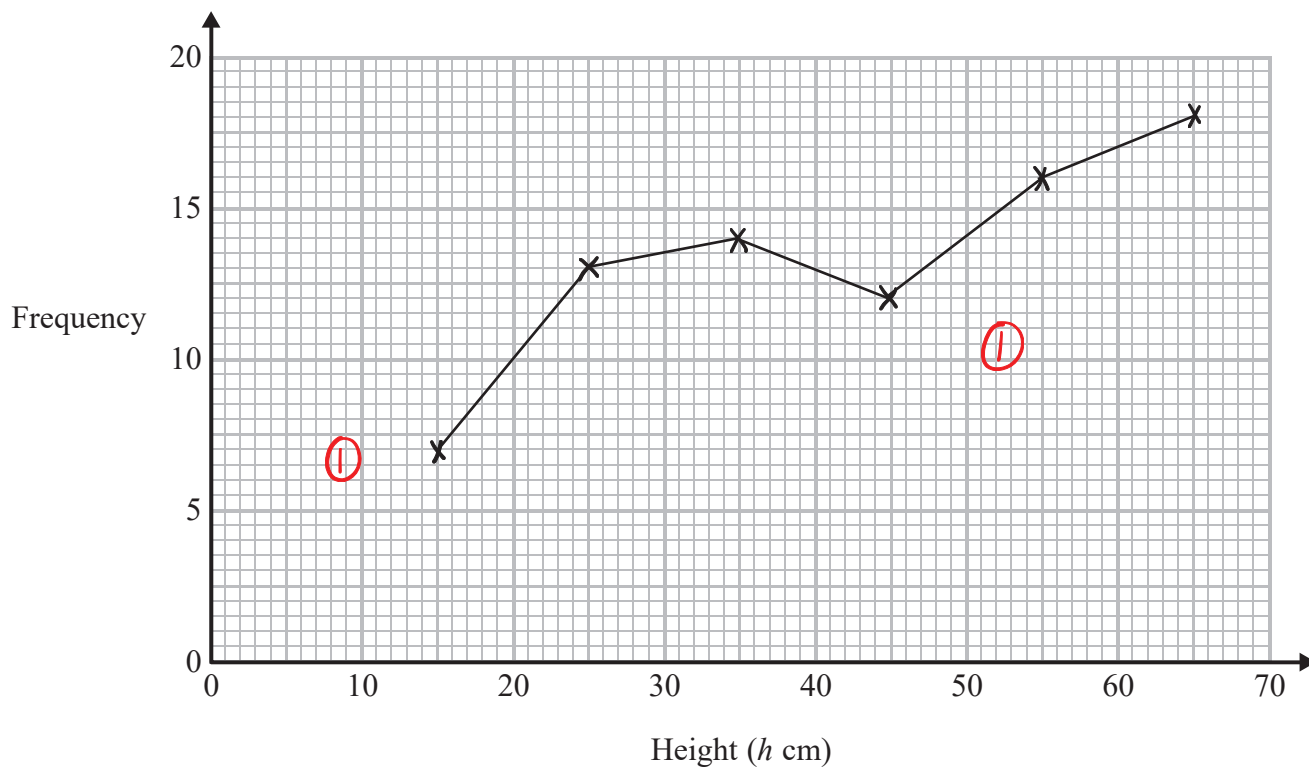
\therefore median is at 40th position.

①

$$40 < h \leq 50$$

(1)

- (b) On the grid, draw a frequency polygon for the information in the table.



(2)

(Total for Question is 3 marks)

3. The table gives information about the times taken, in seconds, by 18 students to run a race.

$$\frac{5+10}{2} = 7.5$$

Time (t seconds)	Frequency	x	frequency $\times x$
$5 < t \leq 10$	1	7.5	$1 \times 7.5 = 7.5$
$10 < t \leq 15$	2	12.5	$2 \times 12.5 = 25$
$15 < t \leq 20$	7	17.5	$7 \times 17.5 = 122.5$
$20 < t \leq 25$	8	22.5	$8 \times 22.5 = 180$

Work out an estimate for the mean time.

Give your answer correct to 3 significant figures.

$$\text{mean} = \frac{\text{total}}{n} \quad \leftarrow \text{(how many 'things' there are)}$$

$$\text{Mean} = \frac{335}{18} = 18.611\ldots = 18.6 \text{ (3sf)}$$

$$\begin{aligned} \text{Total} &= \\ 7.5 + 25 + 122.5 \\ + 180 &= 335 \end{aligned}$$

..... 18.6 seconds