1. The table shows information about the weekly earnings of 20 people who work in a shop.

Weekly earnings (£x)	Frequency	Midpoint
$150 < x \leqslant 250$	1	200
$250 < x \leqslant 350$	11	300
$350 < x \leqslant 450$	5	400
$450 < x \leqslant 550$	0	500
$550 < x \leqslant 650$	3	600

(a) Work out an estimate for the mean of the weekly earnings.

$1 \times 200 + 11 \times 300 + 5 \times 400 + 3 \times 600$

$= 200 + 3300 + 2000 + 1800$

$= 7300$

$\frac{7300}{20}$

$= 730 \div 2$

$= 365$

200
3 300
2 000
1 800
7 300
1

£ 365

(3)

Nadiya says,

"The mean may **not** be the best average to use to represent this information."

(b) Do you agree with Nadiya?
You must justify your answer.

Yes, because outliers will affect the mean

(1)

(Total for Question is 4 marks)

40 / 41st

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

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

15 $130 < h \leq 150$

39 $130 < h \leq 160$

61 $130 < h \leq 170$

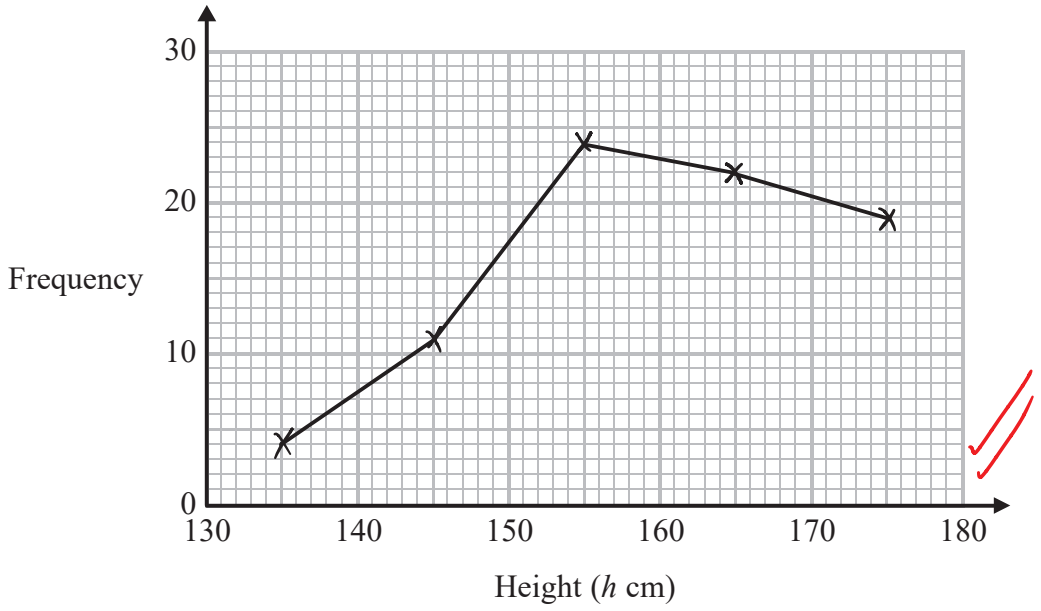
(a) Find the class interval that contains the median.

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 is 3 marks)

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

Time (t seconds)	Frequency	middle
$5 < t \leqslant 10$	1	7.5
$10 < t \leqslant 15$	2	12.5
$15 < t \leqslant 20$	7	17.5
$20 < t \leqslant 25$	8	22.5

Work out an estimate for the mean time.
Give your answer correct to 3 significant figures.

$1 \times 7.5 + 2 \times 12.5 + 7 \times 17.5 + 8 \times 22.5$
$= 335$ ✓

$\frac{335}{18}$ ✓ $= 18.6111\ldots$
$= 18.6$ (3.s.f.)

..... 18.6 ✓ ..... seconds

(Total for Question is 3 marks)