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

Weekly earnings (£x)	Frequency
$150 < x \leqslant 250$	1
$250 < x \leqslant 350$	11
$350 < x \leqslant 450$	5
$450 < x \leqslant 550$	0
$550 < x \leqslant 650$	3

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

£..................................

(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.

....

....

(1)

(Total for Question 1 is 4 marks)

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

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

....

(1)

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

(2)
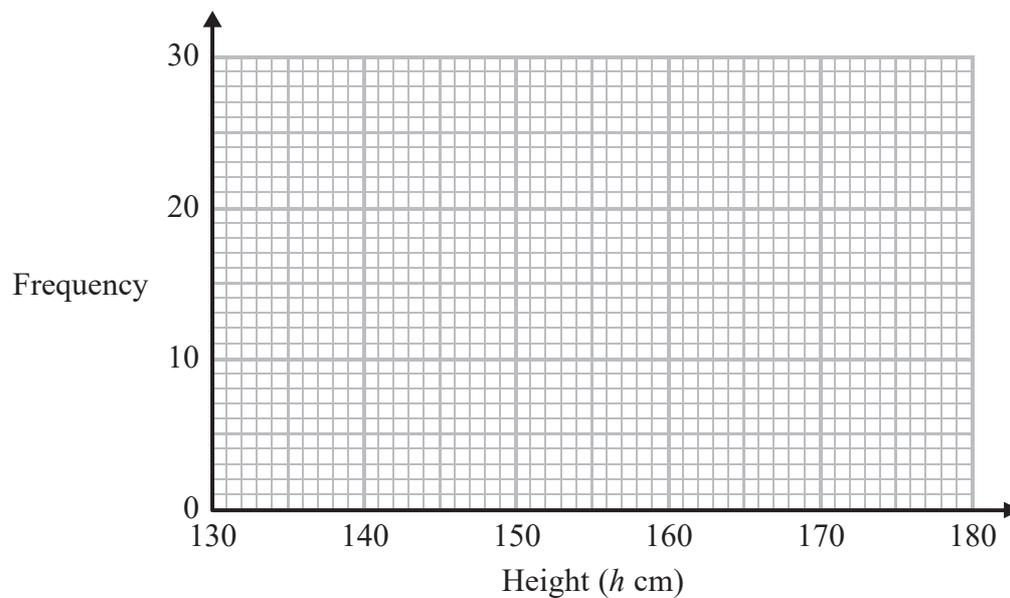
(Total for Question 2 is 3 marks)

3 There are 10 boys and 20 girls in a class.
The class has a test.

The mean mark for all the class is 60
The mean mark for the girls is 54

Work out the mean mark for the boys.

....

(Total for Question 3 is 3 marks)

4   The table shows some information about the dress sizes of 25 women.

Dress size	Number of women
8	2
10	9
12	8
14	6

(a) Find the median dress size.

....

(1)

3 of the 25 women have a shoe size of 7

Zoe says that if you choose at random one of the 25 women, the probability that she has either a shoe size of 7 or a dress size of 14 is $\dfrac{9}{25}$ because

$$\frac{3}{25} + \frac{6}{25} = \frac{9}{25}$$

(b) Is Zoe correct?
     You must give a reason for your answer.

....

....

(1)

(Total for Question 4 is 2 marks)

5 A bus company recorded the ages, in years, of the people on coach A and the people on coach B.

Here are the ages of the 23 people on coach A.

| 41 | 42 | 44 | 48 | 52 | 53 | 53 | 53 | 56 | 57 | 57 | 59 |
| 60 | 61 | 63 | 64 | 64 | 66 | 67 | 69 | 74 | 77 | 79 |

(a) Complete the table below to show information about the ages of the people on coach A.

Median	
Lower quartile	
Upper quartile	
Least age	41
Greatest age	79

(2)

Here is some information about the ages of the people on coach B.

Median	70
Lower quartile	54
Upper quartile	73
Least age	42
Greatest age	85

Richard says that the people on coach A are younger than the people on coach B.

(b) Is Richard correct?
You must give a reason for your answer.

....

....

....

(1)

Richard says that the people on coach A vary more in age than the people on coach B.

(c) Is Richard correct?
You must give a reason for your answer.

....

....

....

(1)

(Total for Question 5 is 4 marks)

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

Height (*h* cm)	Frequency
$10 < h \leqslant 20$	7
$20 < h \leqslant 30$	13
$30 < h \leqslant 40$	14
$40 < h \leqslant 50$	12
$50 < h \leqslant 60$	16
$60 < h \leqslant 70$	18

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

....

(1)

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

(2)
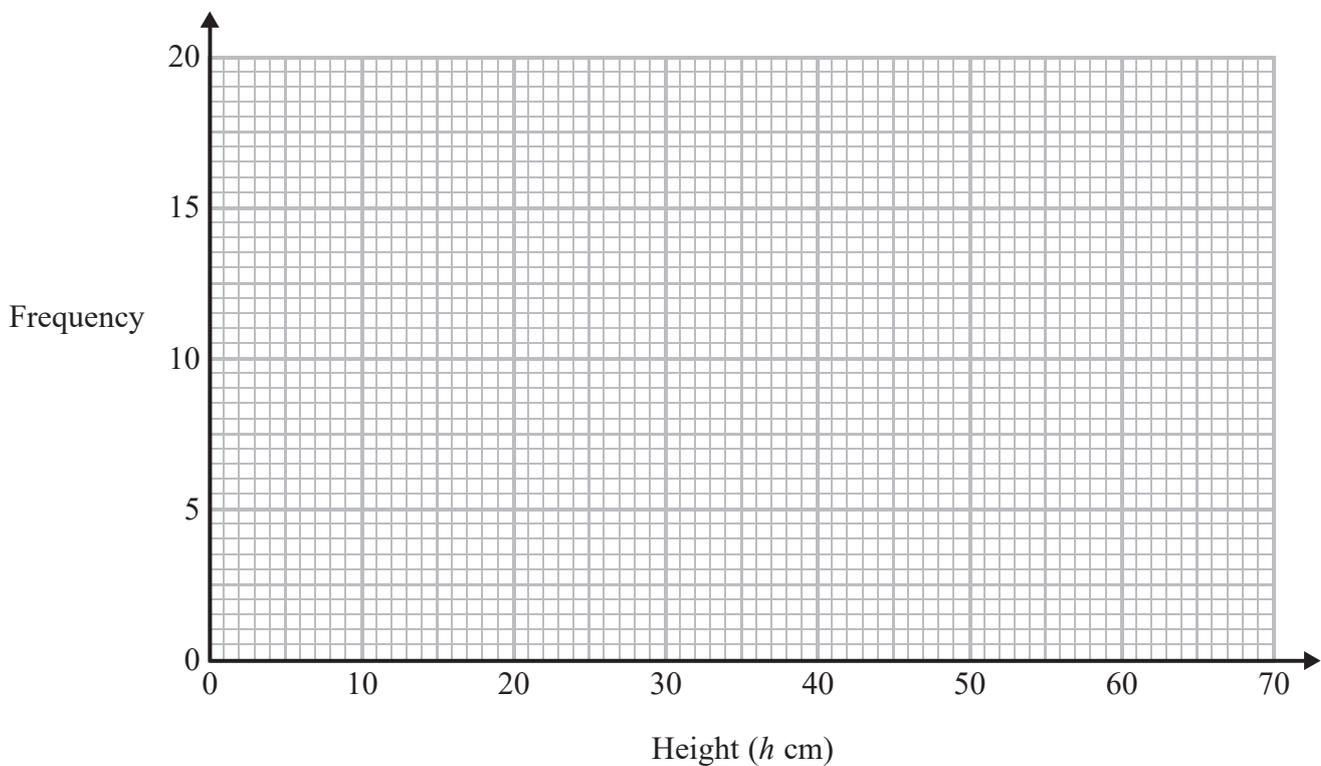
(Total for Question 6 is 3 marks)

7 The table shows information about the heights, in cm, of a group of Year 9 girls.

least height	150 cm
median	165 cm
greatest height	170 cm

This stem and leaf diagram shows information about the heights, in cm, of a group of 15 Year 9 boys.

15	8 9 9
16	4 5 7 7 8
17	0 3 4 4 7
18	0 2

Key: 15 | 8 represents 158 cm

Compare the distribution of the heights of the girls with the distribution of the heights of the boys.

....

....

....

....

....

....

(Total for Question 7 is 3 marks)

8 There is a total of 45 boys and girls in a choir.

The mean age of the 18 boys is 16.2 years.
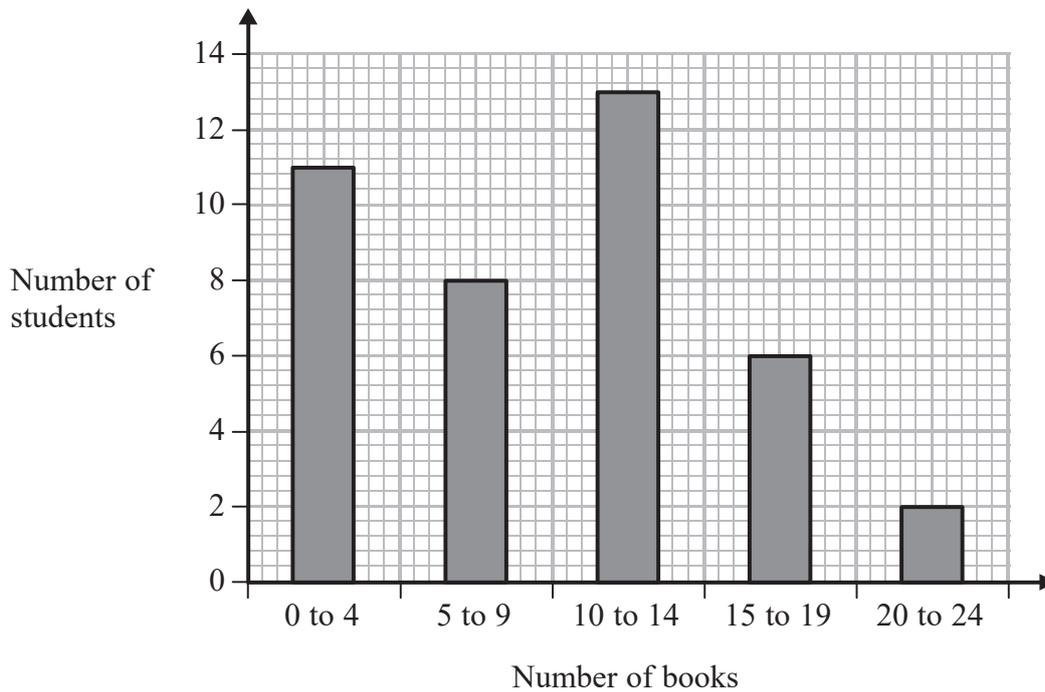The mean age of the 27 girls is 16.7 years.

Calculate the mean age of all 45 boys and girls.

.... years

(Total for Question 8 is 3 marks)

9 Fran asks each of 40 students how many books they bought last year.

The chart below shows information about the number of books bought by each of the 40 students.

(a) Work out the percentage of these students who bought 20 or more books.

....%

(2)

(b) Show that an estimate for the mean number of books bought is 9.5
You must show all your working.

(4)

(Total for Question 9 is 6 marks)

10 4 red bricks have a mean weight of 5 kg.
5 blue bricks have a mean weight of 9 kg.
1 green brick has a weight of 6 kg.

Donna says,

"The mean weight of the 10 bricks is less than 7 kg."

Is Donna correct?
You must show how you get your answer.

(Total for Question 10 is 3 marks)

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

Time (*t* seconds)	Frequency
$5 < t \leqslant 10$	1
$10 < t \leqslant 15$	2
$15 < t \leqslant 20$	7
$20 < t \leqslant 25$	8

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

.... seconds

(Total for Question 11 is 3 marks)

12 There are 30 women and 20 men at a gym.

The mean height of all 50 people is 167.6 cm
The mean height of the 20 men is 182 cm

Work out the mean height of the 30 women.

.... cm

(Total for Question 12 is 3 marks)

13 The table shows the amount of snow, in cm, that fell each day for 30 days.

Amount of snow (s cm)	Frequency
$0 \leqslant s < 10$	8
$10 \leqslant s < 20$	10
$20 \leqslant s < 30$	7
$30 \leqslant s < 40$	2
$40 \leqslant s < 50$	3

Work out an estimate for the mean amount of snow per day.

.... cm

(Total for Question 13 is 3 marks)