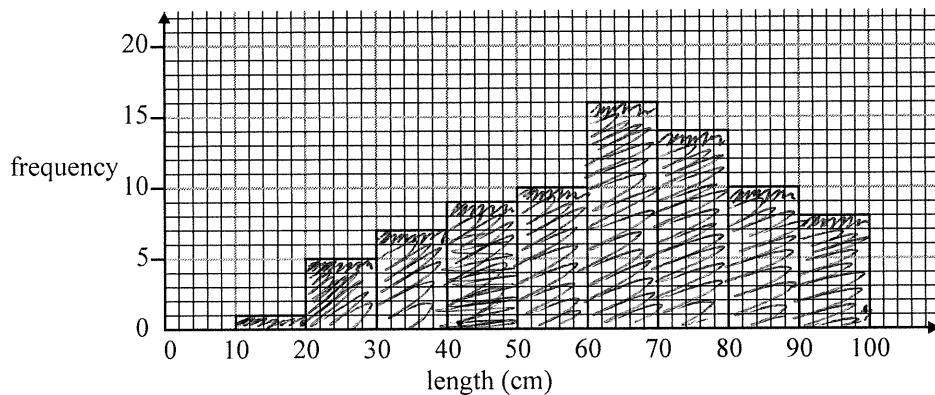


NAME

Descriptive Stats Worksheet

58 min
63 marks

1. The following diagram represents the lengths, in cm, of 80 plants grown in a laboratory.



- (a) How many plants have lengths in cm between
- (i) 50 and 60?
 - (ii) 70 and 90?
- (2)
- (b) Calculate estimates for the mean and the standard deviation of the lengths of the plants.
- (4)
- (c) Explain what feature of the diagram suggests that the median is different from the mean.
- (1)
- (d) The following is an extract from the cumulative frequency table.

length in cm less than	cumulative frequency
.	.
50	22
60	32
70	48
80	62
.	.

Use the information in the table to estimate the median. Give your answer to **two** significant figures.

(3)
(Total 10 marks)

2. At a conference of 100 mathematicians there are 72 men and 28 women. The men have a mean height of 1.79 m and the women have a mean height of 1.62 m. Find the mean height of the 100 mathematicians.

Working:

Answer:

(Total 4 marks)

3. From January to September, the mean number of car accidents per month was 630. From October to December, the mean was 810 accidents per month.

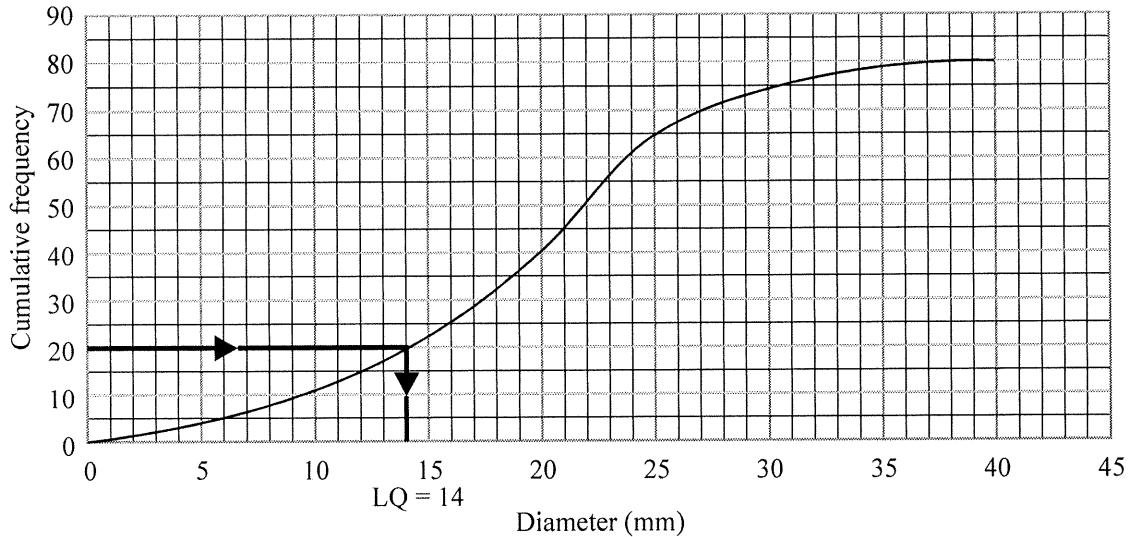
What was the mean number of car accidents per month for the whole year?

Working:

Answer:

(Total 6 marks)

4. A student measured the diameters of 80 snail shells. His results are shown in the following cumulative frequency graph. The lower quartile (LQ) is 14 mm and is marked clearly on the graph.



- (a) On the graph, mark clearly in the same way and write down the value of
(i) the median;
(ii) the upper quartile.
(b) Write down the interquartile range.

Working:

Answer:

(b)

(Total 6 marks)

5. Let a , b , c and d be integers such that $a < b$, $b < c$ and $c = d$.

The mode of these four numbers is 11.

The range of these four numbers is 8.

The mean of these four numbers is 8.

Calculate the value of each of the integers a , b , c , d .

Working:

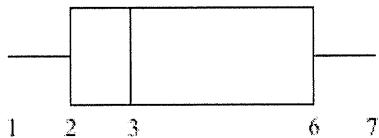
Answers:

$$a = \dots, b = \dots$$

$$c = \dots, d = \dots$$

(Total 6 marks)

6. The box and whisker diagram shown below represents the marks received by 32 students.



- (a) Write down the value of the median mark.
(b) Write down the value of the upper quartile.
(c) Estimate the number of students who received a mark greater than 6.

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(Total 6 marks)

7. A box contains 100 cards. Each card has a number between one and six written on it. The following table shows the frequencies for each number.

Number	1	2	3	4	5	6
Frequency	26	10	20	k	29	11

- (a) Calculate the value of k .

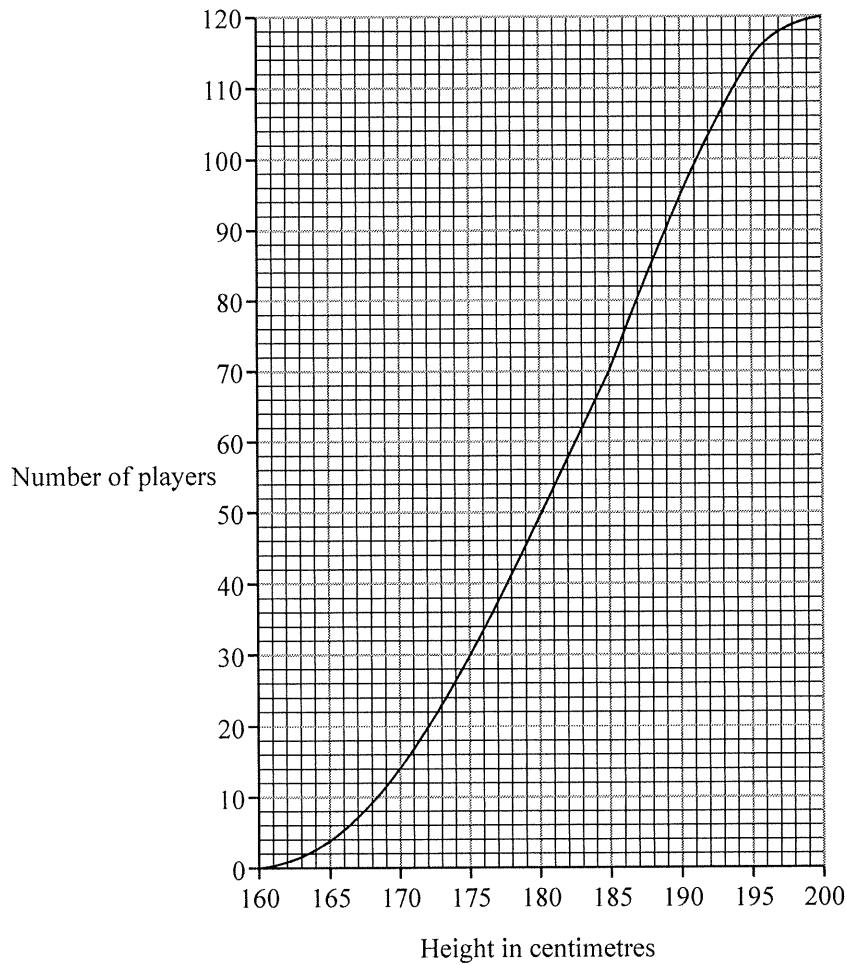
(2)

- (b) Find

- (i) the median;
 - (ii) the interquartile range.

(5)
(Total 7 marks)

8. The cumulative frequency curve below shows the heights of 120 basketball players in centimetres.



Use the curve to estimate

- (a) the median height;
(b) the interquartile range.

Working:

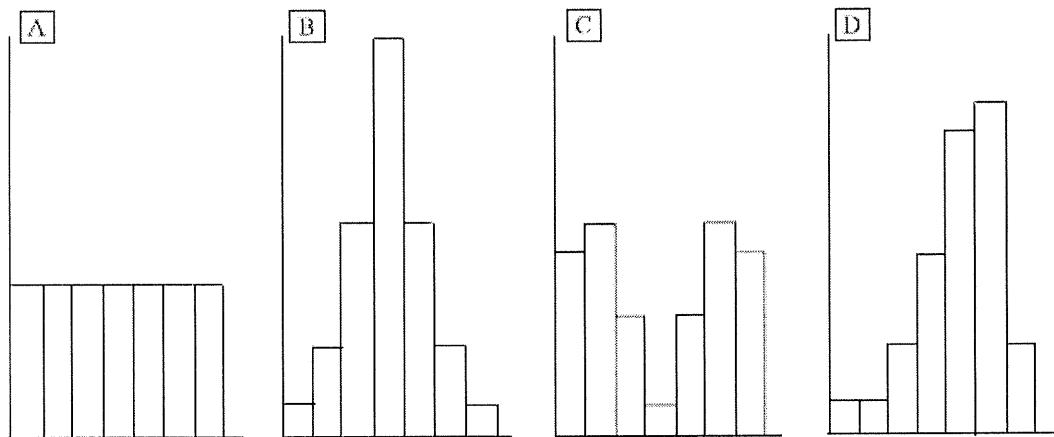
Answers:

(a)

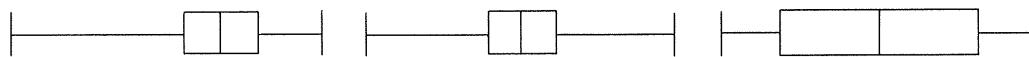
(b)

(Total 6 marks)

9. The four populations A, B, C and D are the same size and have the same range. Frequency histograms for the four populations are given below.



- (a) Each of the three box and whisker plots below corresponds to one of the four populations. Write the letter of the correct population under each plot.

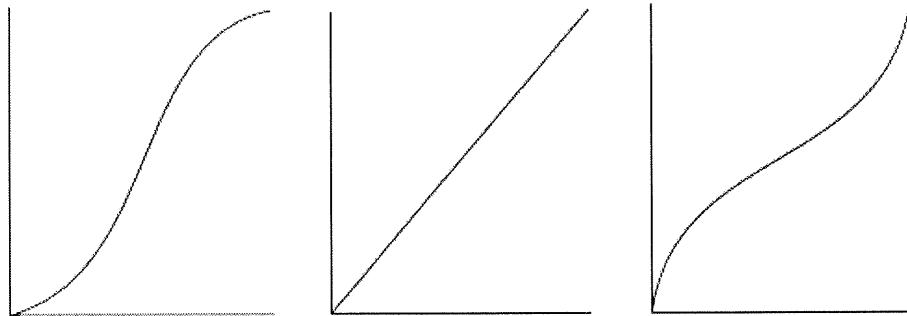


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- (b) Each of the three cumulative frequency diagrams below corresponds to one of the four populations. Write the letter of the correct population under each diagram.



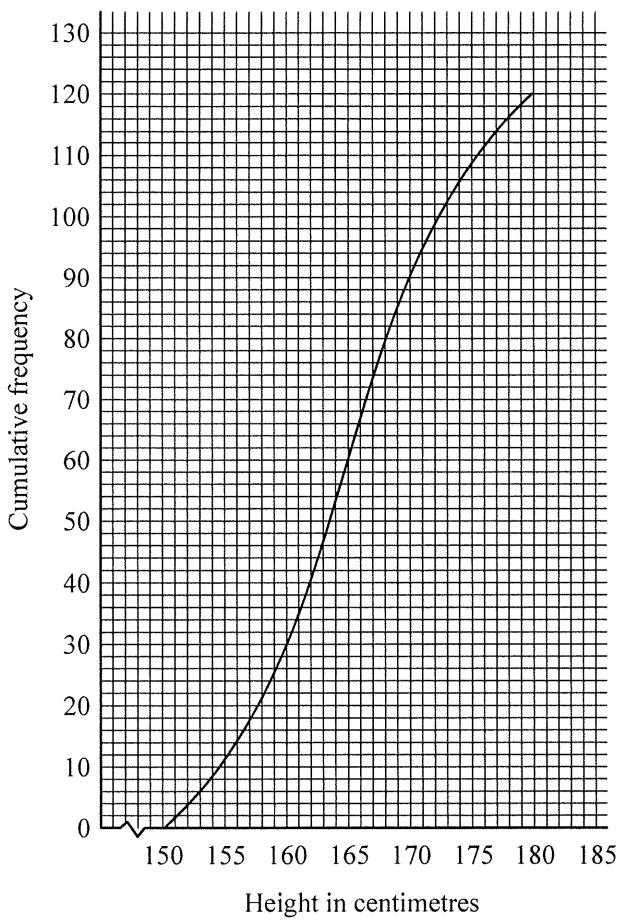
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(Total 6 marks)

10. The cumulative frequency graph below shows the heights of 120 girls in a school.



- (a) Using the graph
- write down the median;
 - find the interquartile range.
- (b) Given that 60% of the girls are taller than a cm, find the value of a .

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(Total 6 marks)