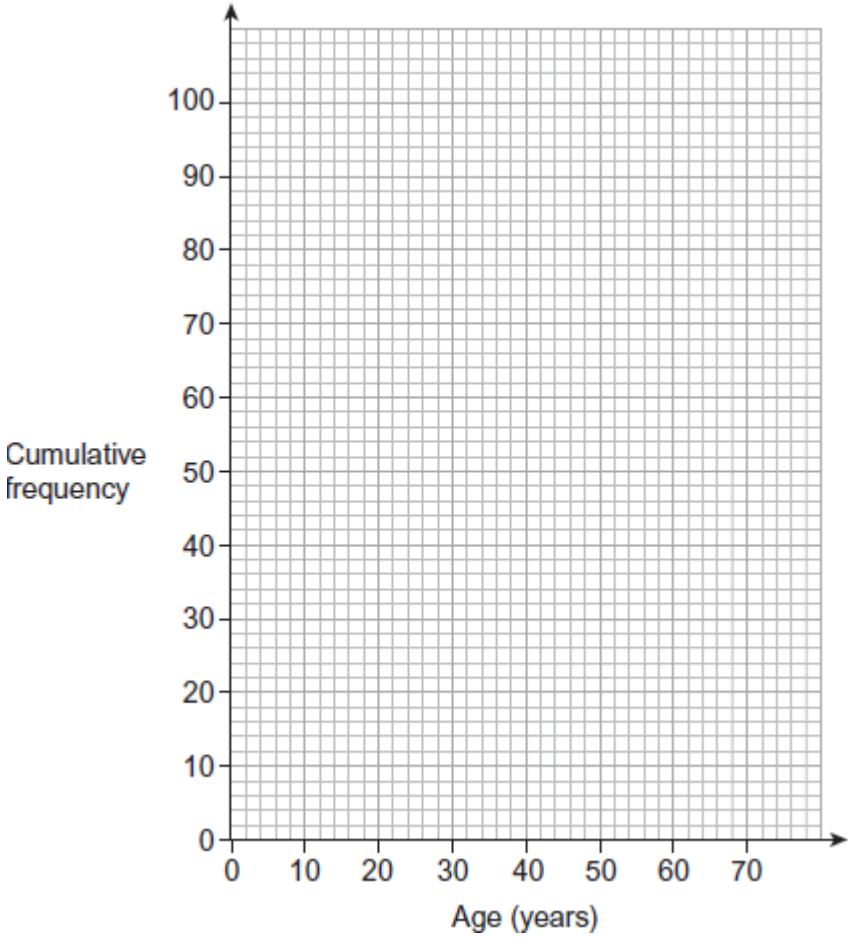
Q1.

The table shows information about the ages of 100 rugby supporters.

Age, a (years)	Frequency
$5 \leq a < 15$	12
$15 \leq a < 20$	11
$20 \leq a < 40$	25
$40 \leq a < 55$	39
$55 \leq a < 70$	13

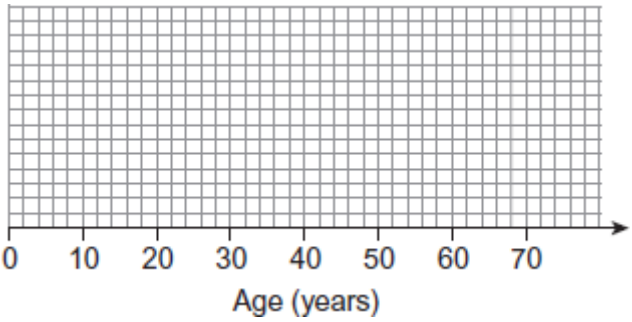
(a) Plot a cumulative frequency diagram for the data.



(4)

(b) The youngest supporter is 8 years old.
The oldest supporter is 69 years old.

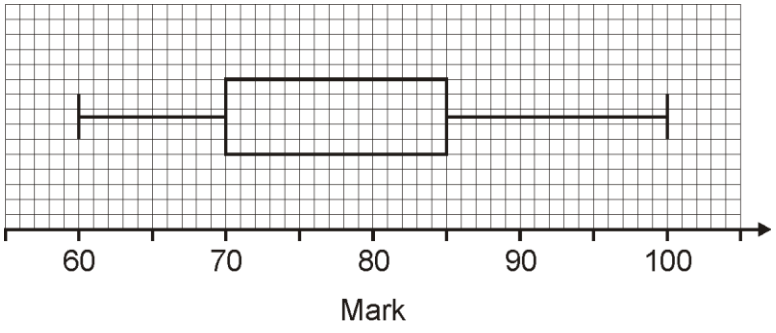
Draw a box plot for the data.



(3)
(Total 7 marks)

Q2. The box plot shows information about the marks of a Y11 class in a test.

Y11

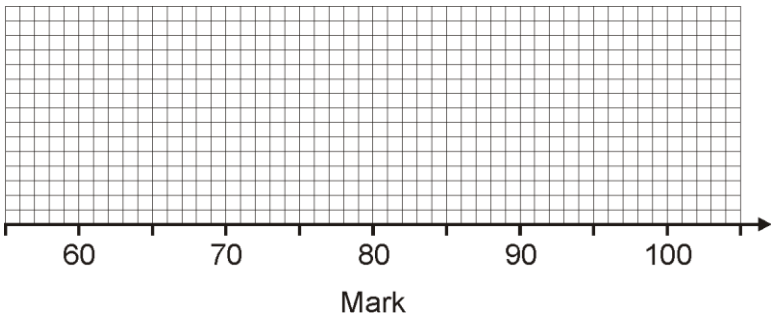


(a) The table shows information about the marks of the **boys** in the class.

Minimum	Lower quartile	Median	Upper quartile	Maximum
65	70	80	85	95

Draw a box plot for the marks of the **boys**.

Boys

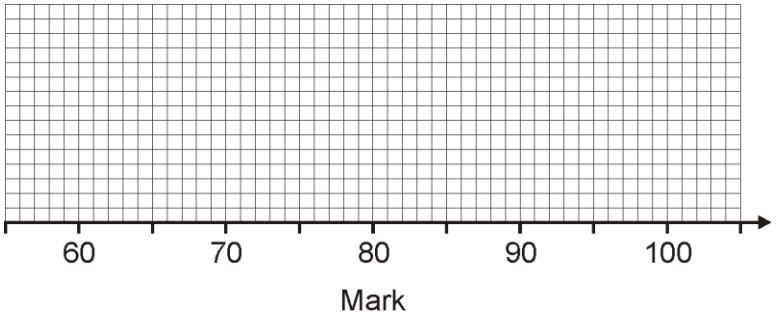


(2)

(b) One-quarter of the girls in the class scored 75 or less.
The inter-quartile range for the girls is the same as for the boys.

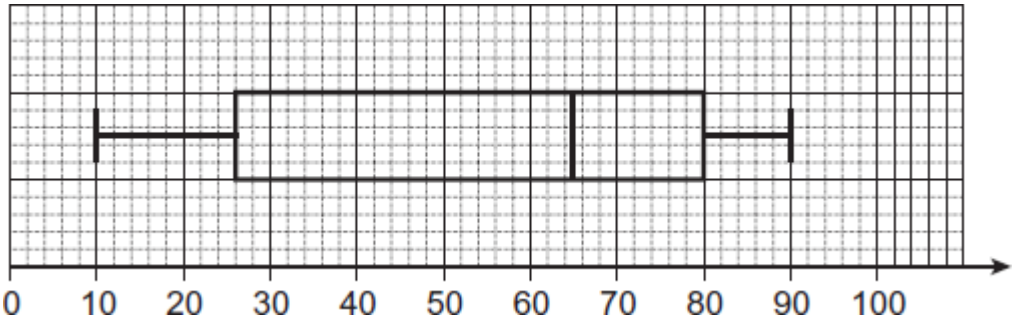
Draw a box plot for the marks of the girls.

Girls



(4)
(Total 6 marks)

Q3. The diagram shows a box plot.



(a) Write down the median.

Answer .....

(1)

(b) Work out the interquartile range.

.....

.....

Answer .....

(1)
(Total 2 marks)

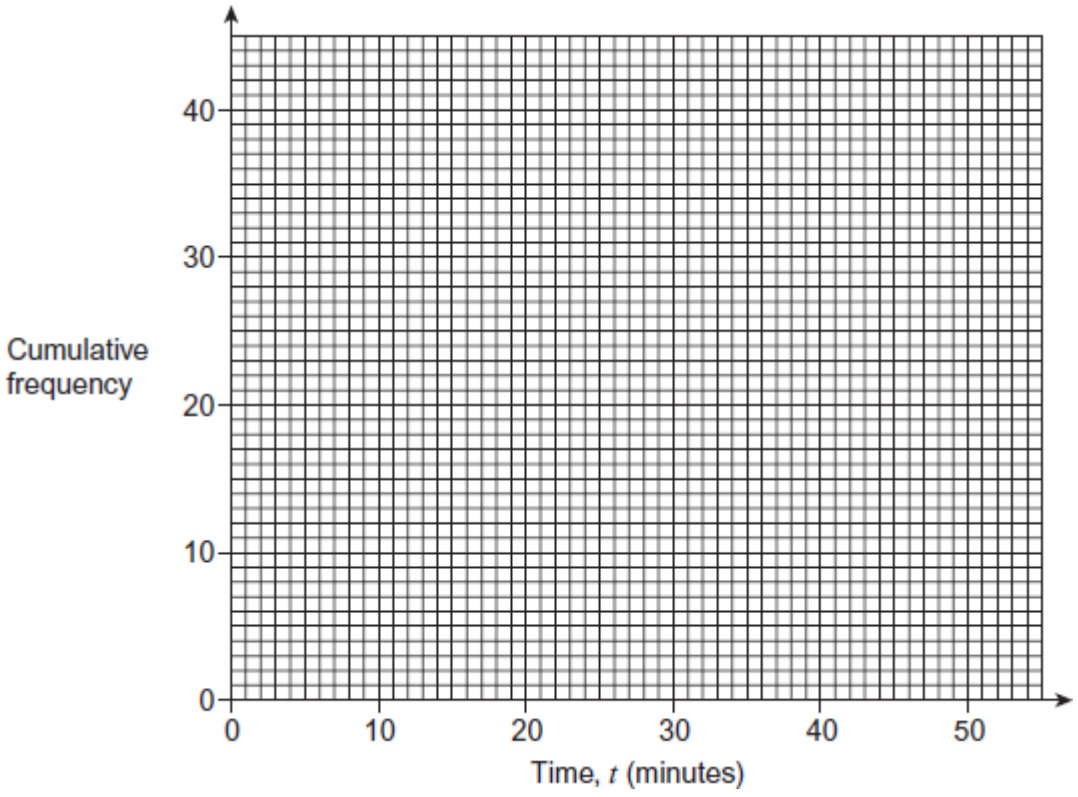
Q4.

Dan and Jane take it in turns to drive to work.

The table shows information about 40 journeys when Dan drives.

Time, *t* (minutes)	**Frequency**
$10 \leq t < 20$	8
$20 \leq t < 25$	10
$25 \leq t < 30$	14
$30 \leq t < 45$	8

(a) Draw a cumulative frequency diagram to show this information on the grid.



(4)

(b) Use your graph to estimate the median journey time.

Answer ..... minutes

(1)

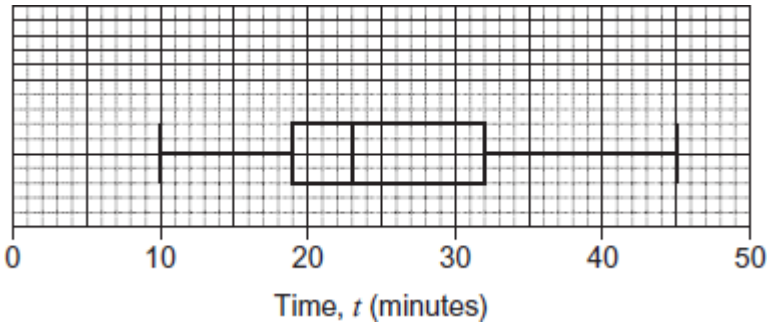
(c) Use your graph to estimate the interquartile range.

.....

Answer ..... minutes

(2)

(d) The box-and-whisker plot shows information about 40 journeys when Jane drives.



Jane says,

"My times are quicker and more consistent than Dan's."

Comment on Jane's statement.

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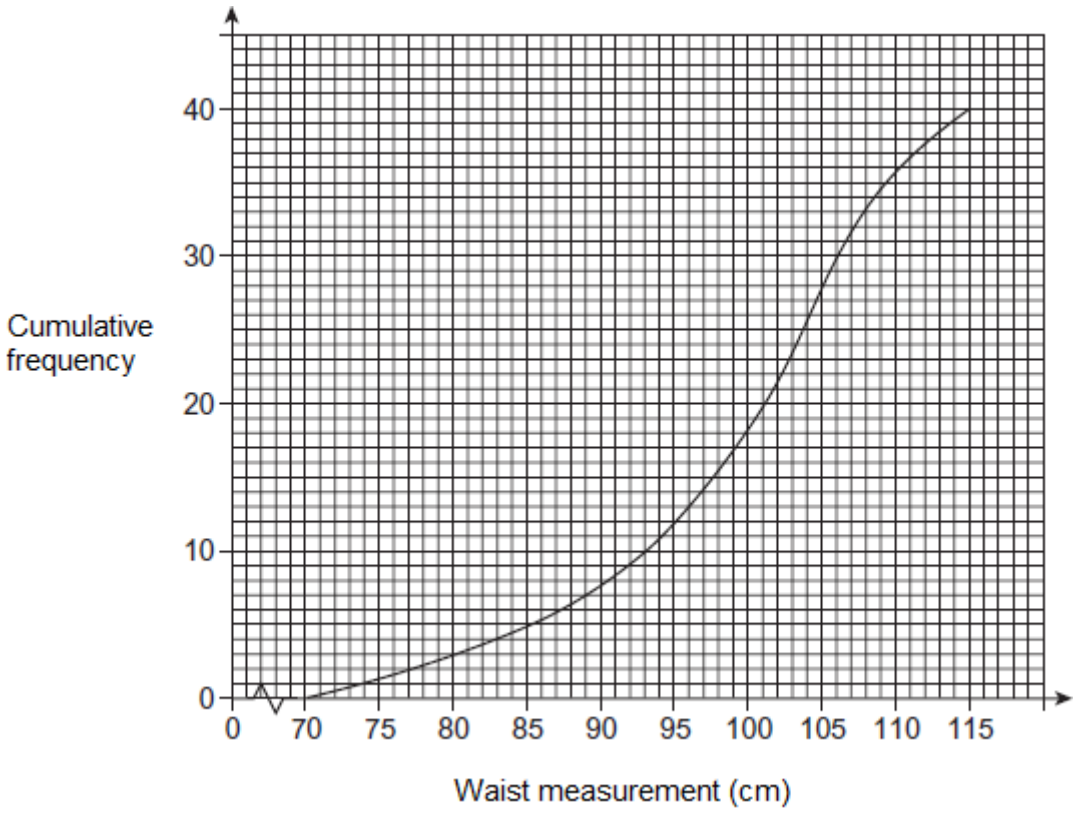
(4)
(Total 11 marks)

Q5. **Waist measurements of 40 men**



(a) How many men have a waist measurement of 85 cm or less?

Answer .....

(1)

(b) What is the median waist measurement?

Answer ..... cm

(1)

(c) What is the interquartile range of the waist measurements?

.....

.....

Answer ..... cm

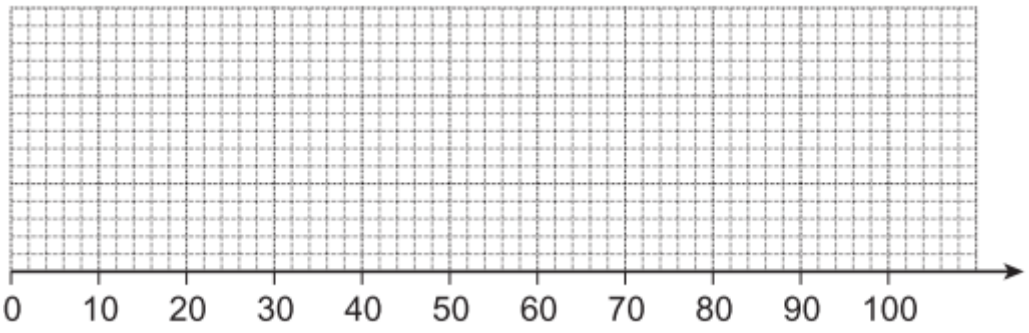
(2)

(Total 4 marks)

Q6.(a) Here is some information about the points scored in a quiz.

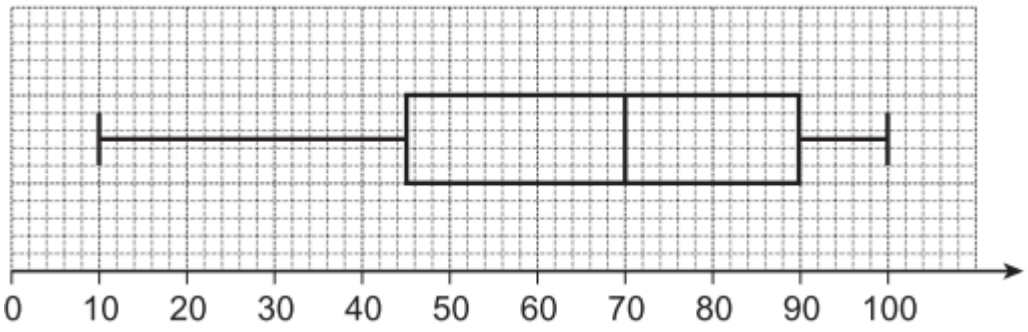
Minimum	Lower quartile	Median	Upper quartile	Maximum
15	20	50	80	90

Show this information on a box plot.



(2)

(b) This box plot represents the marks gained by students in an exam.



Nobody gained exactly 45, 70 or 90 marks.
120 students gained **less than** 90 marks.

How many students gained **more than** 70 marks?

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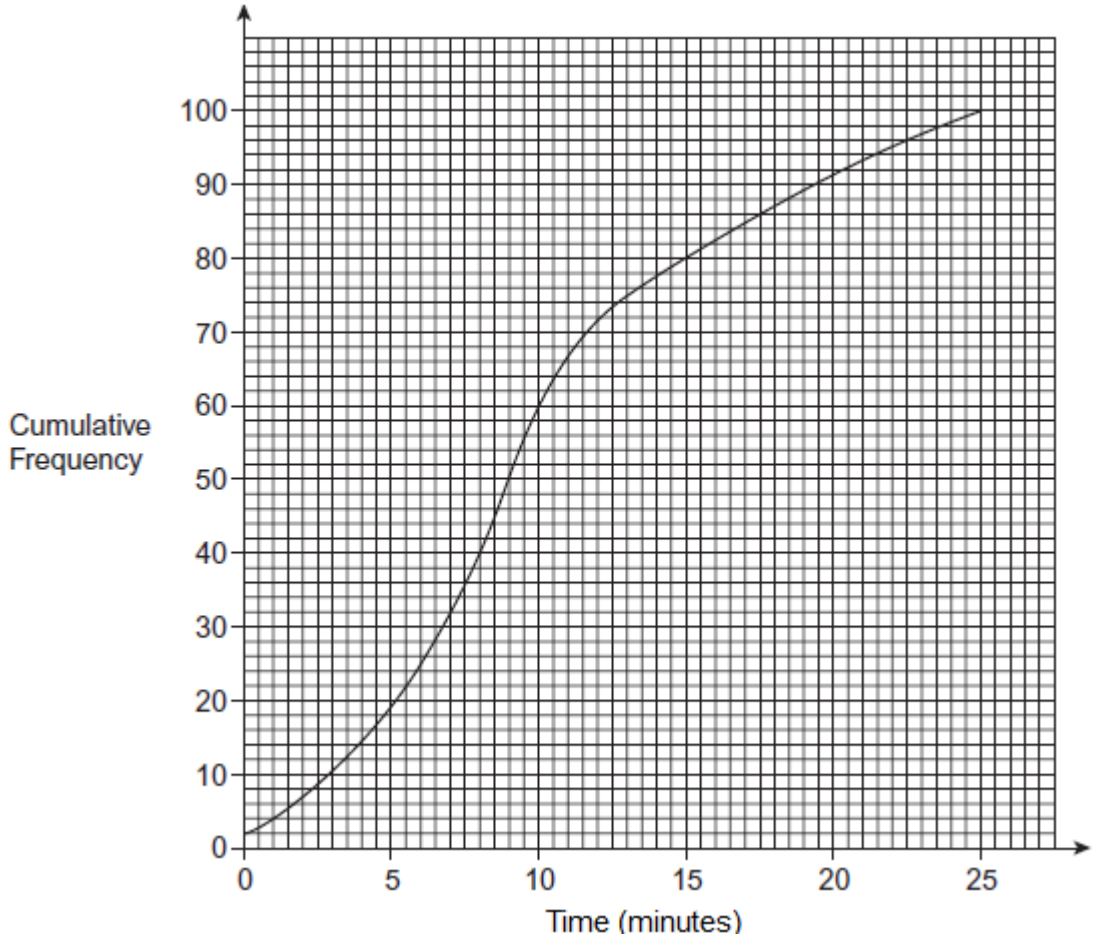
Answer .....

(3)
(Total 5 marks)

Q7. The times that 100 customers spent queuing in a post office were recorded.
The cumulative frequency diagram shows the results.



(a) How many customers queued for more than 15 minutes?

.....

Answer .....

(1)

)

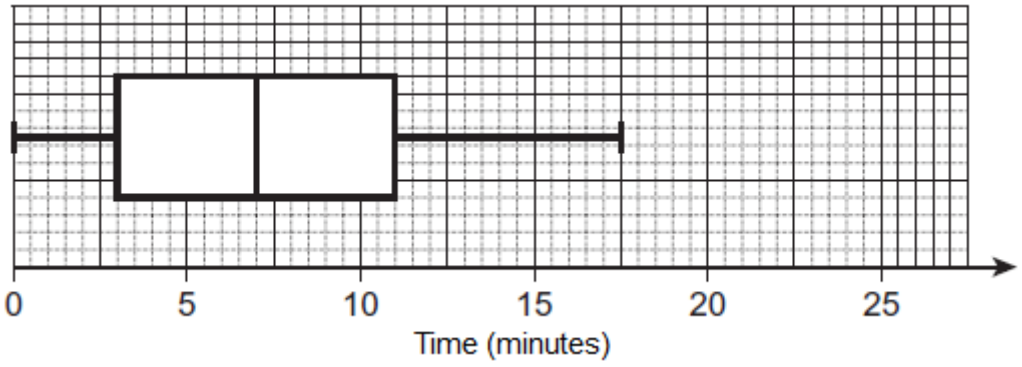
(b) Work out the median queuing time.

.....

Answer ..... minutes

(1)

(c) A new serving window was opened in the post office.
The times that 100 customers spent queuing were then recorded.
The box plot shows the results.



Work out the inter-quartile range of these times.

.....

Answer ..... minutes

(2)

(d) Compare the queuing times before and after the new serving window was opened.
Give **two** comparisons.

Comparison 1 .....

.....

.....

Comparison 2 .....

.....

.....

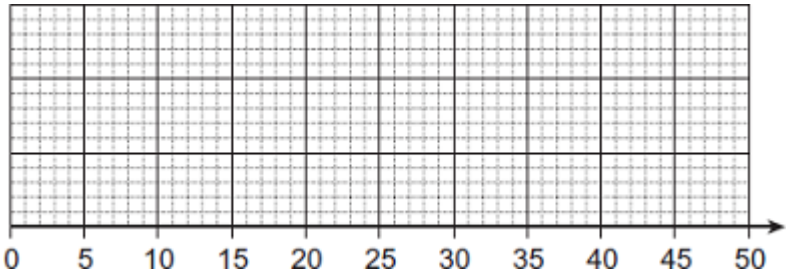
(2)
(Total 6 marks)

Q8.(a) The table shows information about the travel expenses of employees at a company.

All amounts are in £.

Minimum	Lower quartile	Median	Upper quartile	Maximum
9	18	23	30	45

Draw a box plot to show this information.

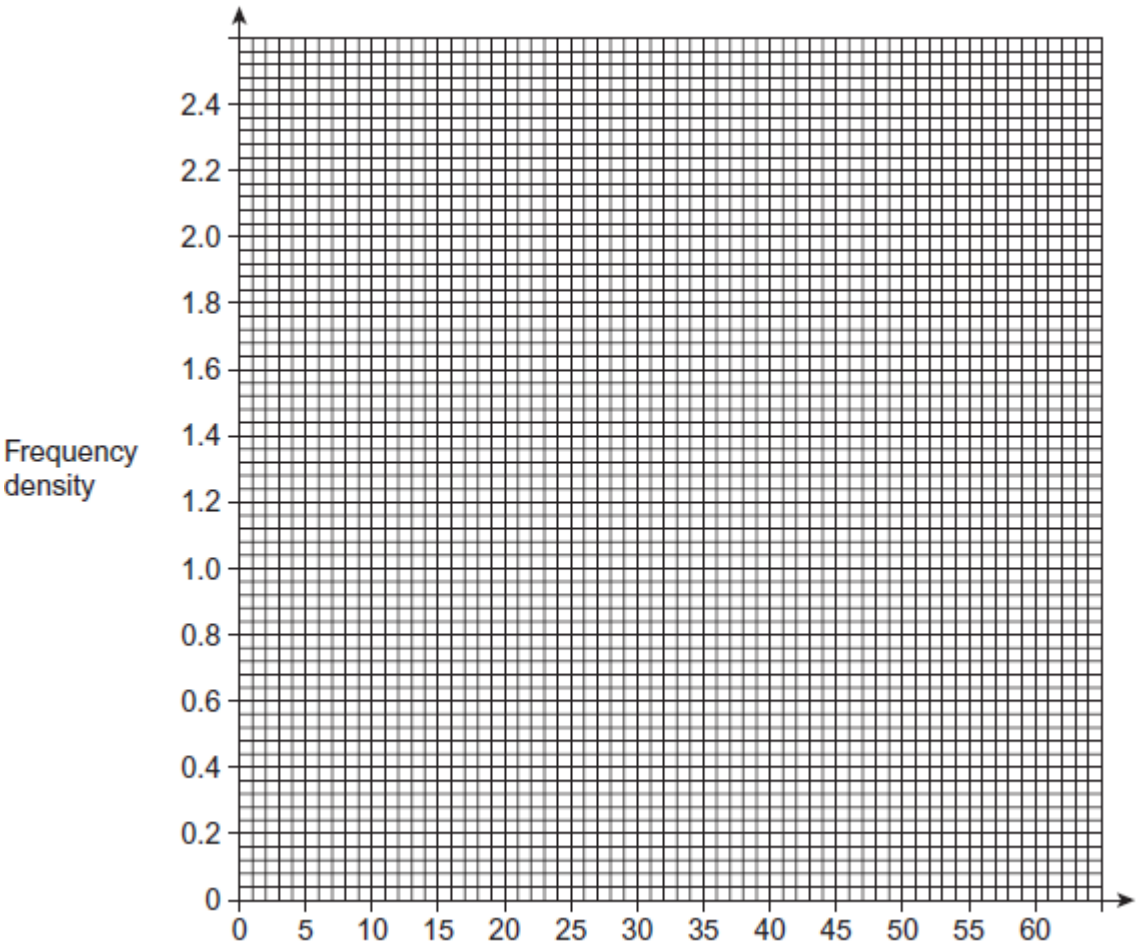


(2)

(b) This table shows information about the distances the employees travel to work.

Distance, D(km)	Frequency
$0 < D \leq 10$	17
$10 < D \leq 15$	12
$15 < D \leq 30$	3
$30 < D \leq 60$	9

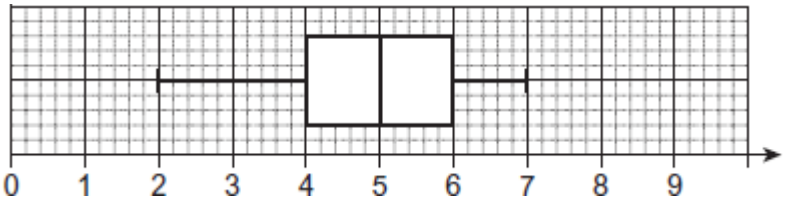
Draw a histogram to show this information.



(3)
(Total 5 marks)

Q9.

Sandra goes to 20 meetings.
The box plot shows the distribution of time that she parks her car when at the meetings.



(a) Each of her times is different.

How do you know that she parks for between 2 and 4 hours at five of her meetings?

.....

.....

(1)

(b) Car park A charges

- £ 1 for up to 4 hours.
- £ 3 for more than 4 hours.

Show that if she parks in car park A for all 20 of her meetings, she pays £ 50 in total.

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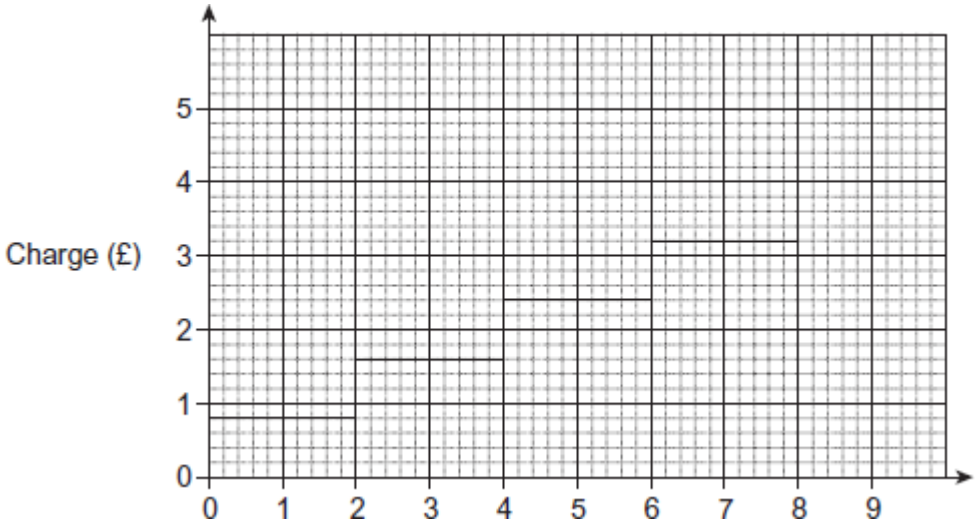
(2)

(c) Car park B charges 80 p for every 2 hours or part of 2 hours.

The graph shows the charges for car park B.



Which car park would cost less to use for the 20 meetings?
You **must** show your working.

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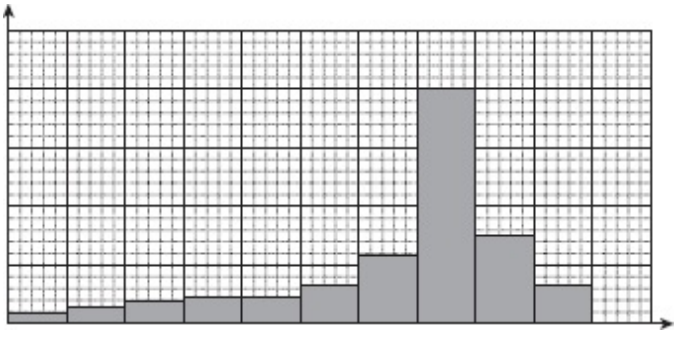
.....

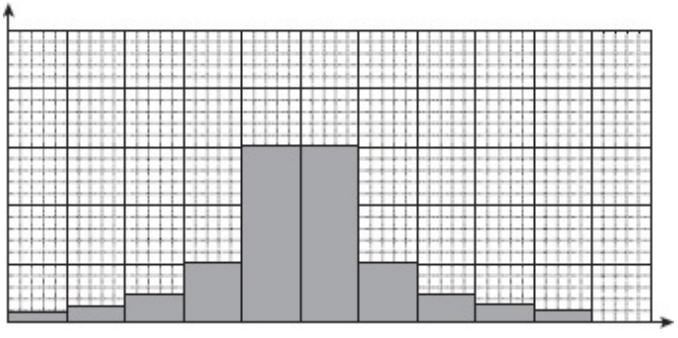
Answer .....

(3)
(Total 6 marks)

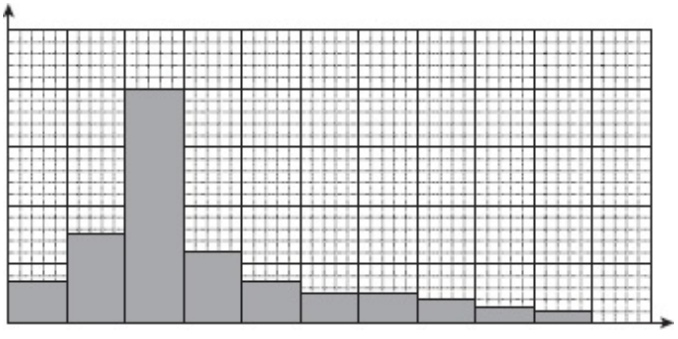
Q10. Here are the histograms for four different sets of data.
Each set of data has the same number of values.



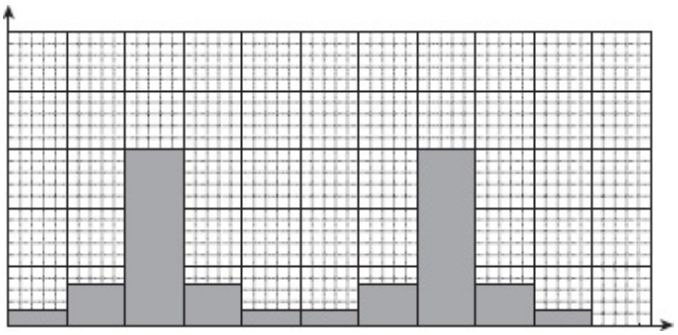
Histogram 1



Histogram 2



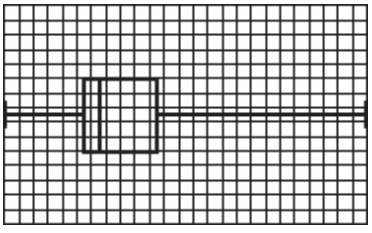
Histogram 3



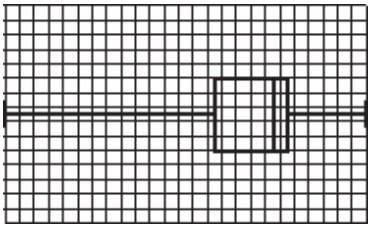
Histogram 4

Here are the box plots for the same four sets of data.

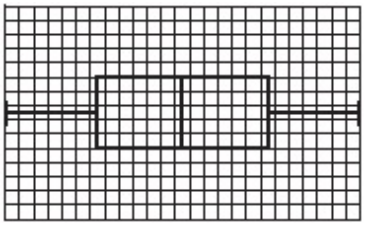
Box plot A



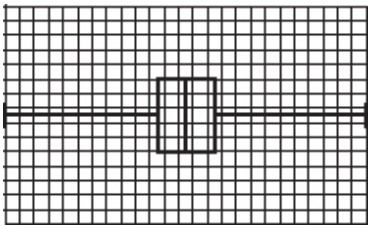
Box plot B



Box plot C



Box plot D



Complete the table to match each box plot to a histogram.

Histogram	Box plot
1	
2	

3	
4	

(Total 3 marks)