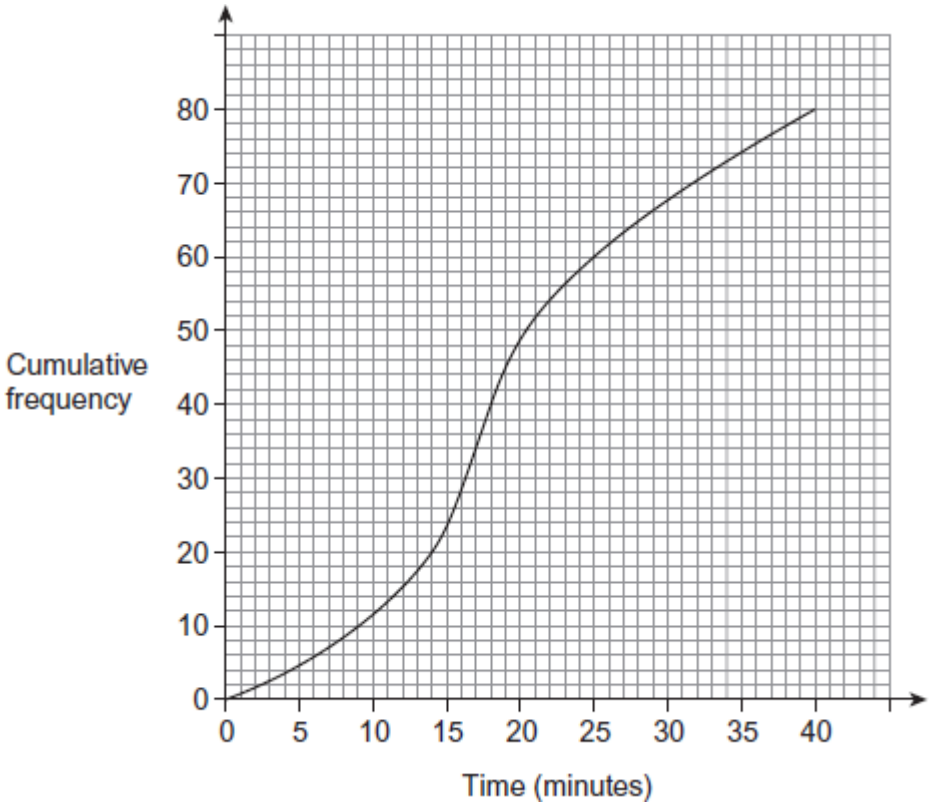
Q1.80 women were timed solving a puzzle.

Women



80 men were also timed solving the puzzle.

Men

Median	16 minutes
Interquartile range	17 minutes

(a) Jack says,

"The data shows that the men were faster on average."

Is he correct?
You **must** show your working, which may be on the diagram.

.....

.....

(1)

(b) Ellie says,

"The data shows that the women were more consistent."

Is she correct?
You **must** show your working.

.....

.....

(2)
(Total 3 marks)

Q2. The table shows data about the times for men and women in a race.

	Mean	**Interquartile range**
Men	34m 50s	6m 30s
Women	40m 10s	4m 45s

Use data from the table to make **two** comparisons between the performances of the men and women in the race.

Comparison 1

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Comparison 2

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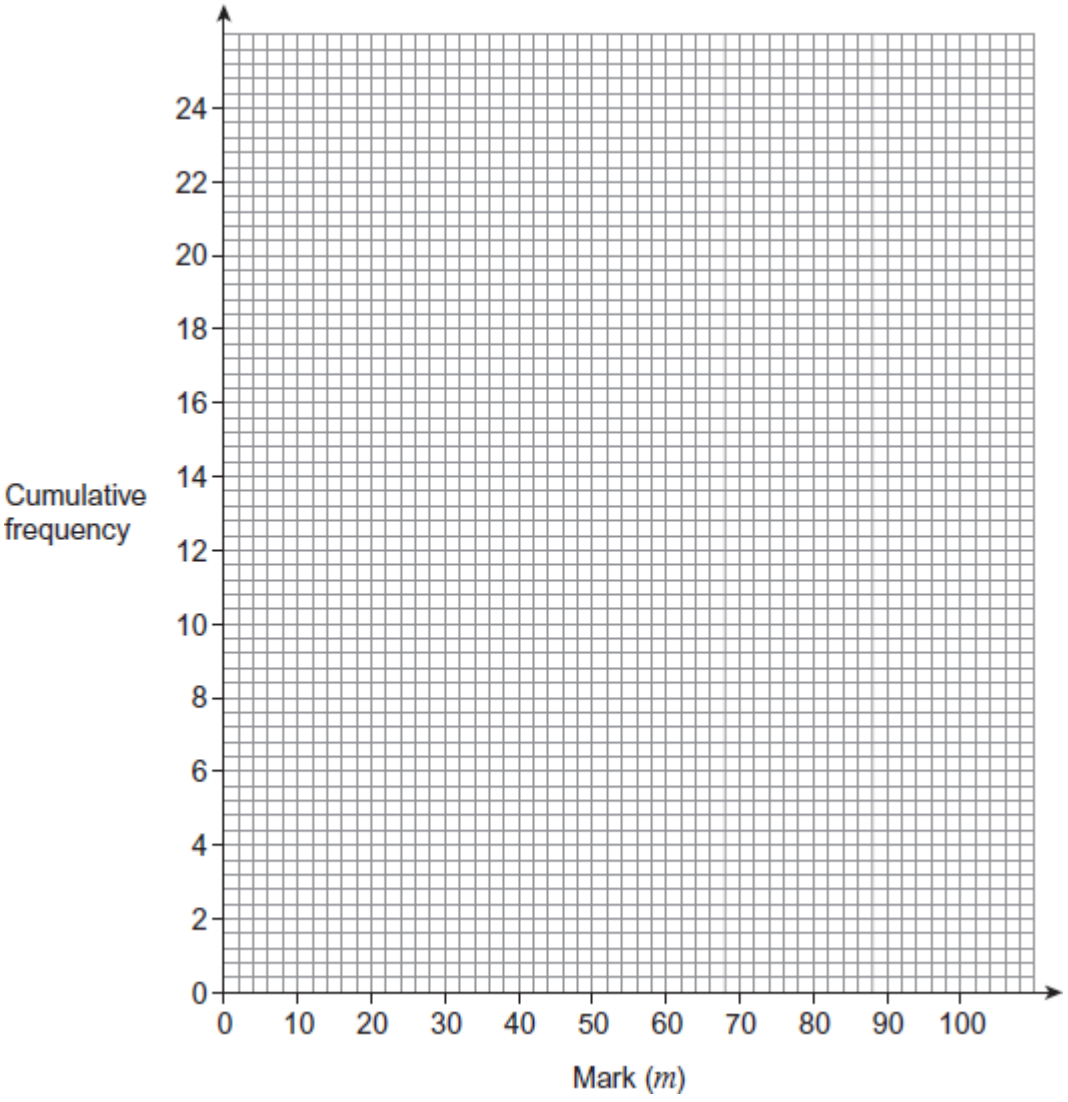
(Total 2 marks)

Q3. 24 students took a test.
The table shows information about their marks.

Mark (m)	**Frequency**
$20 < m \leq 40$	3
$40 < m \leq 60$	5
$60 < m \leq 80$	12
$80 < m \leq 100$	4

(a) Draw a cumulative frequency diagram for their marks.



(3)

(b) Use the cumulative frequency diagram to estimate the interquartile range.

.....

.....

Answer .....

(2)
(Total 5 marks)

Q4. Five **whole** numbers are written in order.

4 7 x y 11

The mean and median of the five numbers are the same.

Work out the values of x and y.

.....

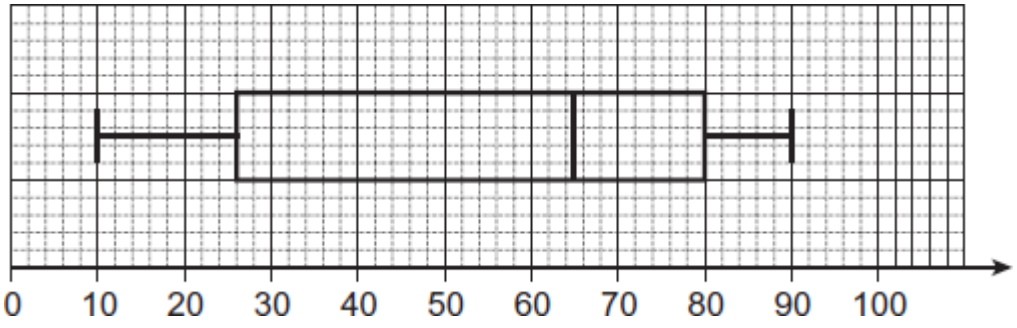
.....

.....

x = ... y = ...

(Total 3 marks)

Q5. The diagram shows a box plot.



(a) Write down the median.

Answer .....

(1)

(b) Work out the interquartile range.

.....

.....

Answer .....

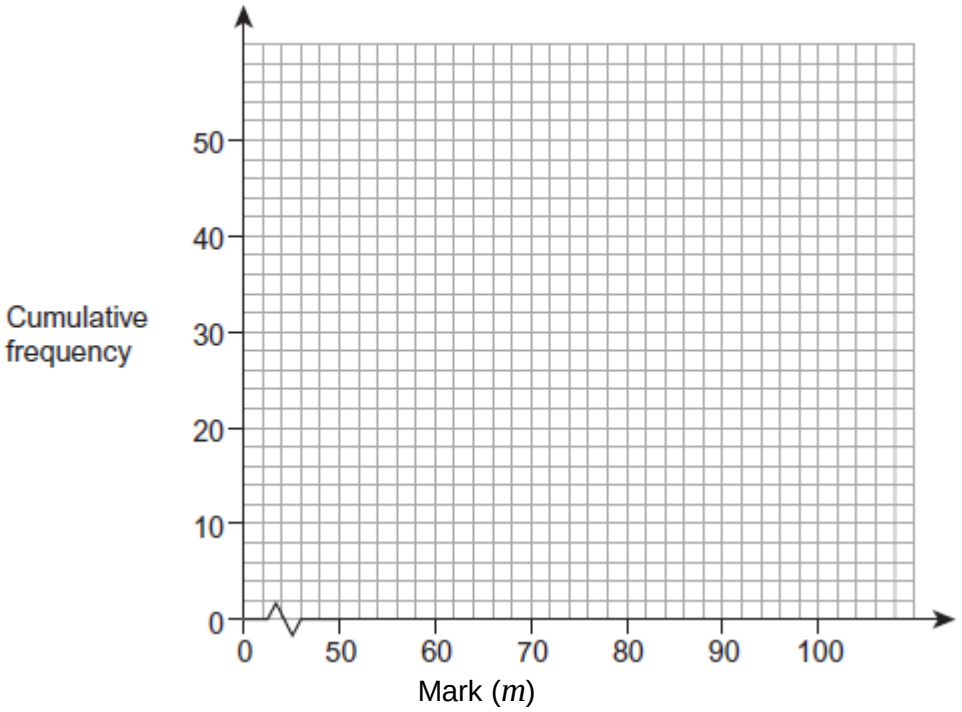
(1)

(Total 2 marks)

Q6. The table shows the marks of 50 students in a test.

Mark (m)	Number of students	
$50 < m \leq 60$	2	
$60 < m \leq 70$	3	
$70 < m \leq 80$	20	
$80 < m \leq 90$	16	
$90 < m \leq 100$	9	

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



(3)

(b) Students who scored between 72 and 85 marks are chosen for extra lessons.

Estimate the number of students chosen.

.....

.....

.....

Answer .....

(3)
(Total 6 marks)

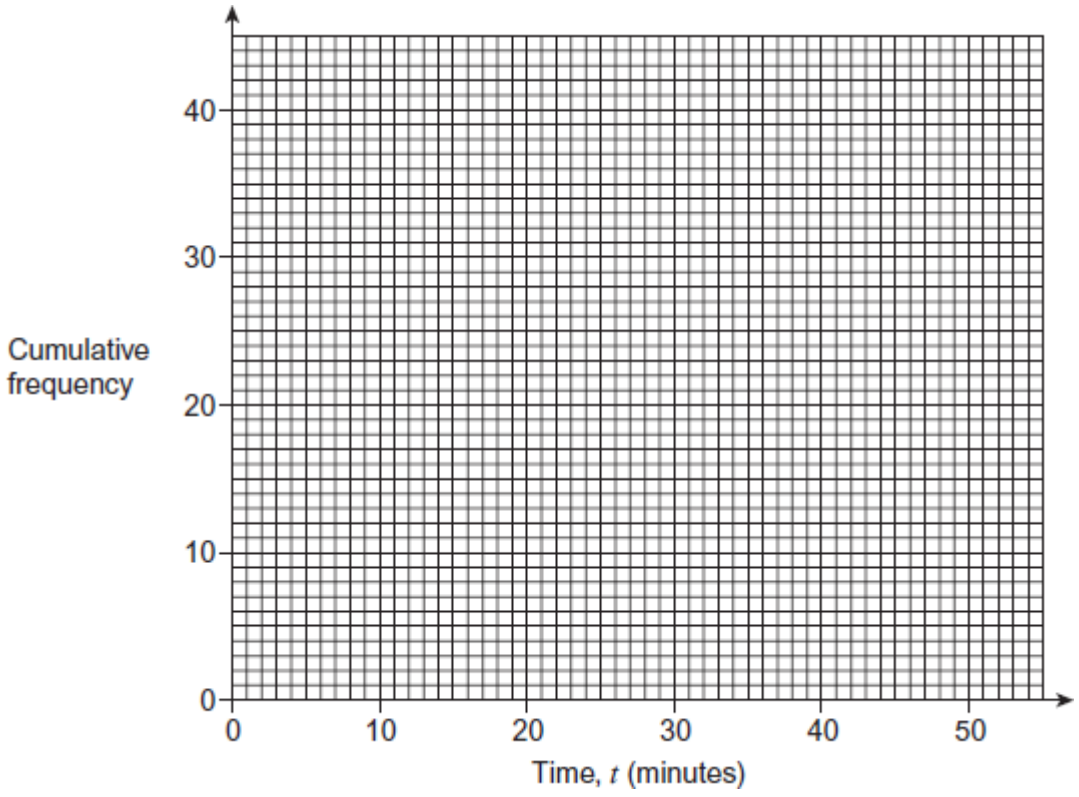
Q7.

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)

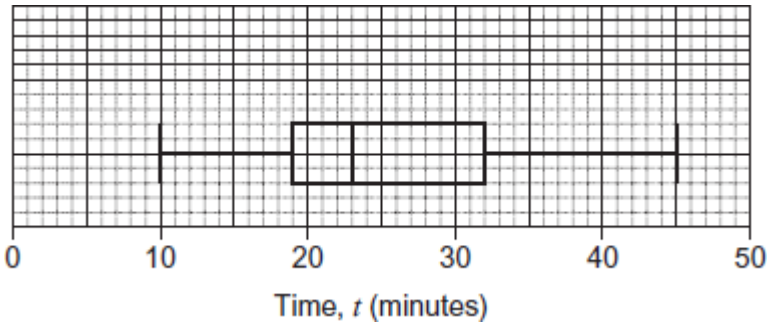
(c) Use your graph to estimate the interquartile range.

.....

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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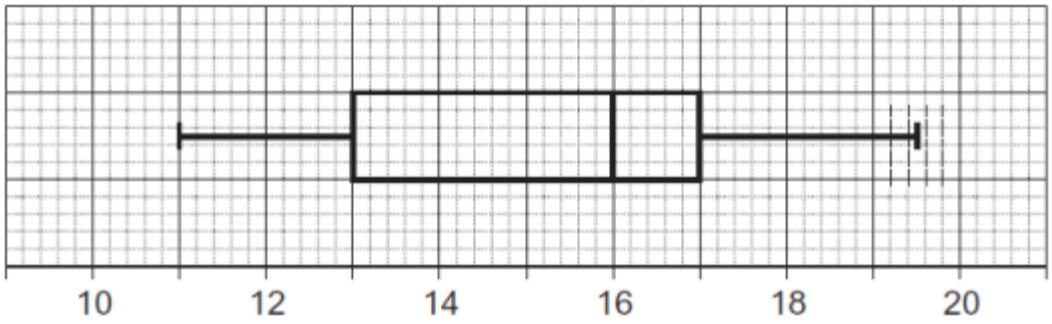
(4)
(Total 11 marks)

Q8. Girls and boys are timed in a race.
The box plot shows information about the times for the girls.

Girls

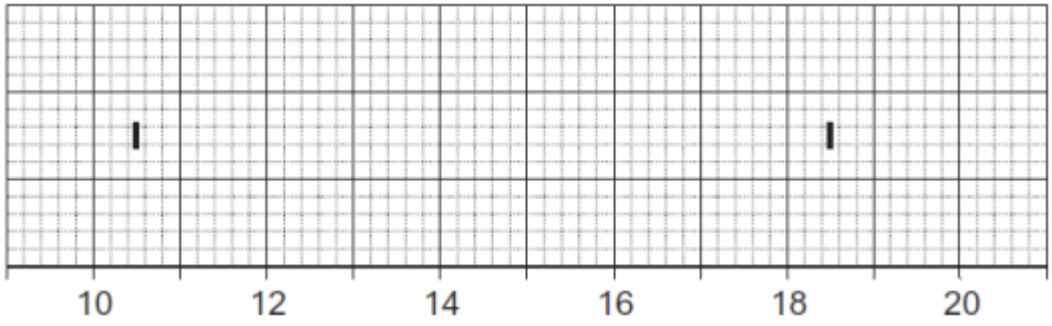


)

- 25% of the boys take 12 seconds or less
- The interquartile range for the boys is the same as for the girls
- The ratio of median times is girls : boys = 8 : 7

Complete the box plot for boys on the grid below.
The times for the fastest and slowest boys have been plotted for you.

Boys



(Total 4 marks)

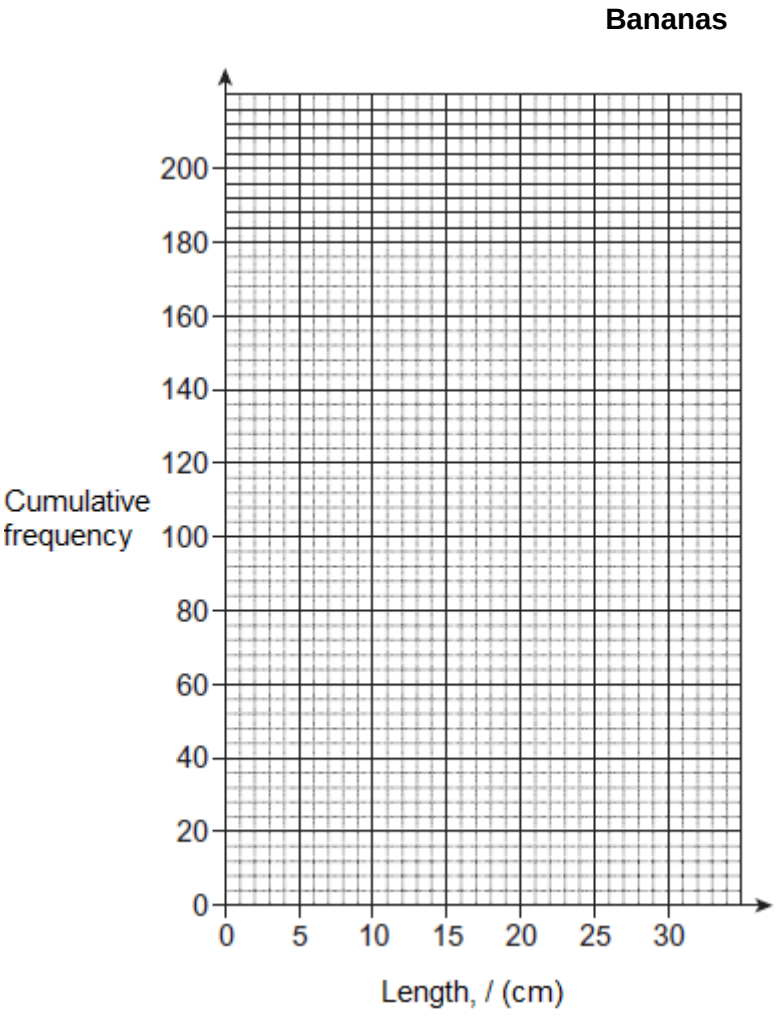
Q9. The table shows information about the lengths of 200 bananas.

Length, *l* (cm)	**Frequency**	**Cumulative frequency**
$5 < l \leq 10$	12	12
$10 < l \leq 15$	48	60
$15 < l \leq 20$	70	
$20 < l \leq 25$	60	
$25 < l \leq 30$	10	

(a) Complete the cumulative frequency column.

(1)

(b) Draw a cumulative frequency diagram for the data.



(3)

(c) A shop only buys bananas with lengths between 16 cm and 22 cm.

Estimate the **fraction** of the 200 bananas that the shop buys.

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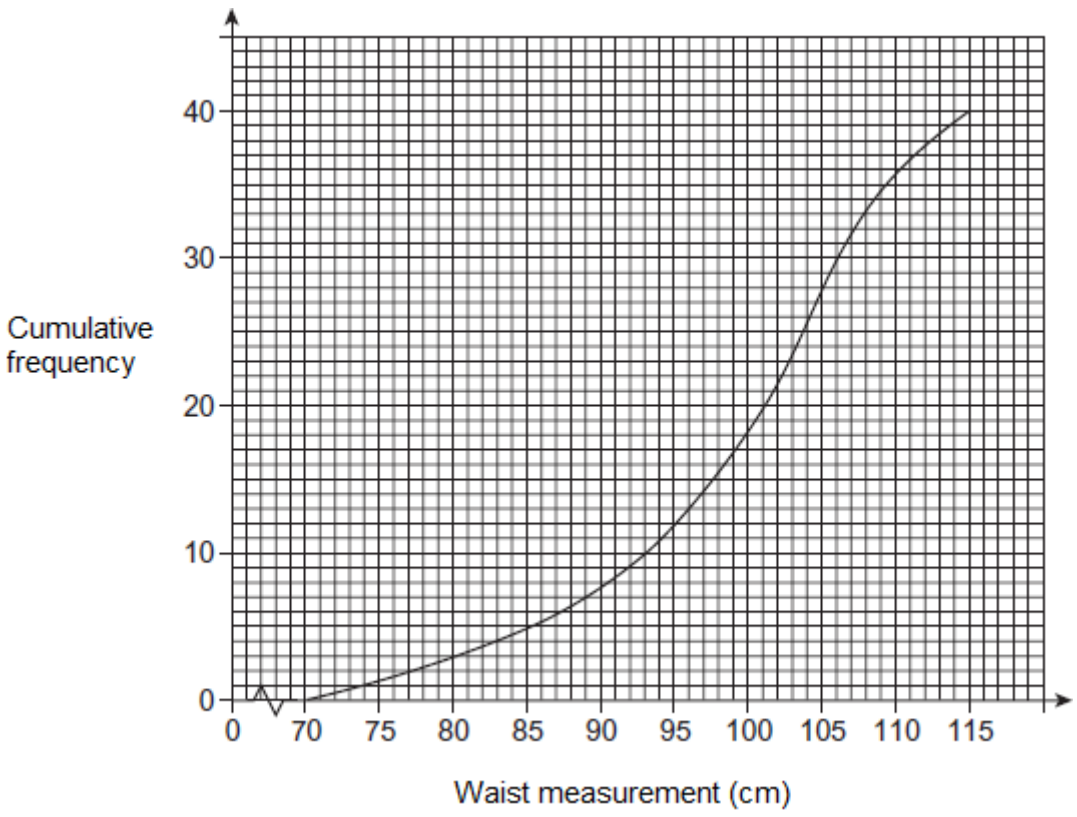
Answer .....

(3)

(Total 7 marks)

Q10. **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

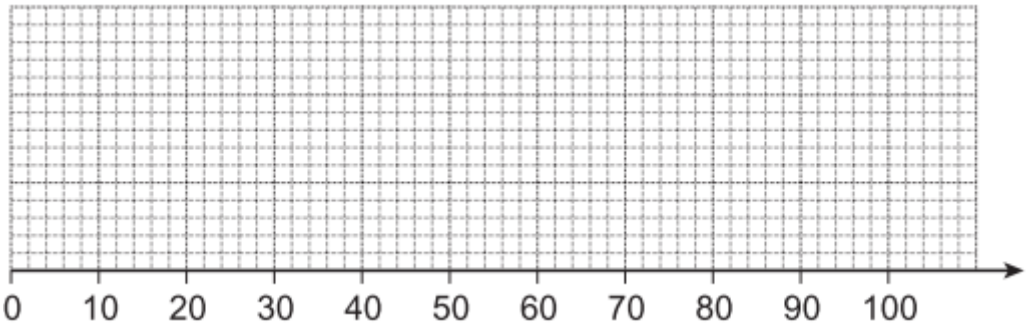
(2)

(Total 4 marks)

Q11.(a) Here is some information about the points scored in a quiz.

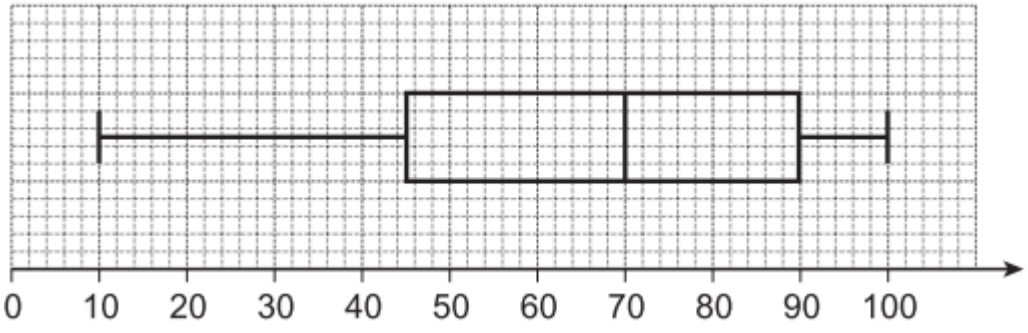
Minimum	Lower quartile	Median	Upper quartile	Maximum
15	20	50	80	90

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?

.....

.....

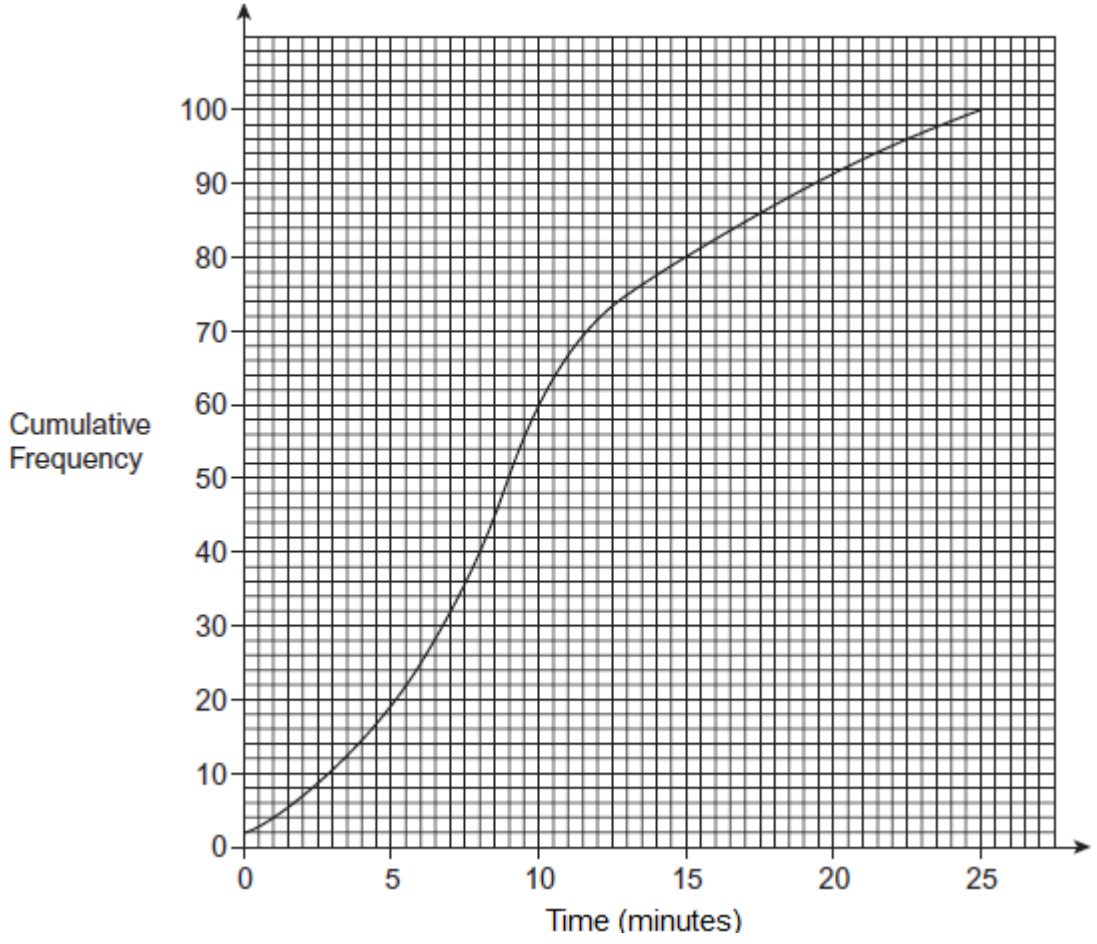
.....

.....

Answer .....

(3)
(Total 5 marks)

Q12. 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)

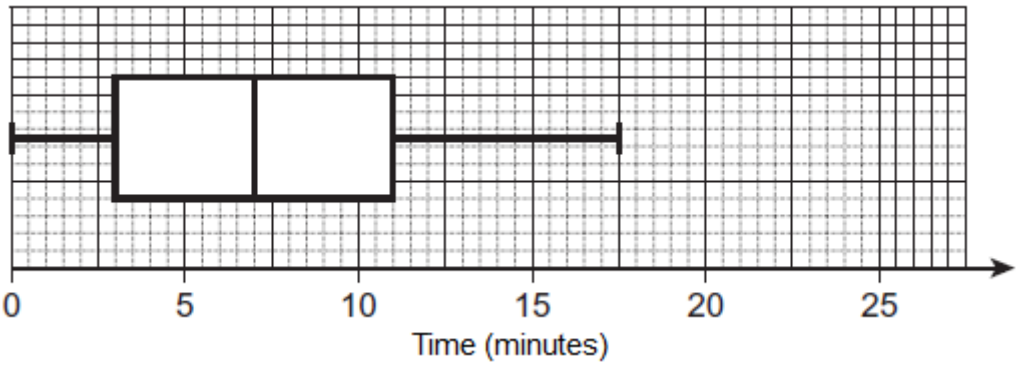
(b) Work out the median queuing time.

.....

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 .....

.....

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(2)
(Total 6 marks)