

Box Plots

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

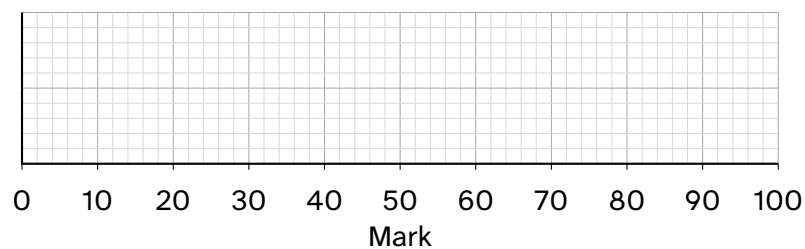
Total marks: **28**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Here are the test marks of 11 students.

35 42 48 51 55 58 62 66 71 78 90

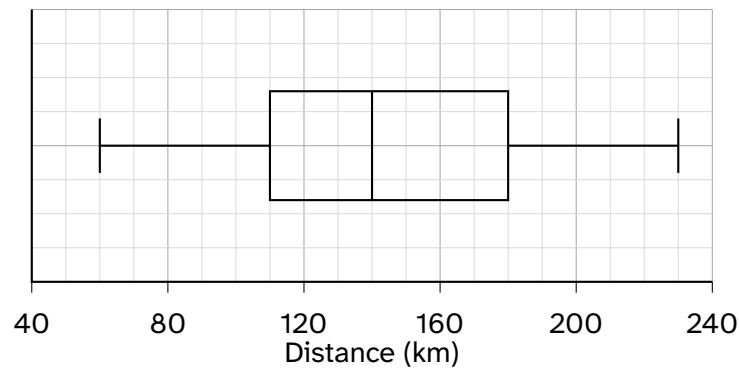
Draw a box plot for this information.



(3)

(Total for Question 1 is 3 marks)

- 2 The box plot shows information about the distances, in km, that some delivery drivers drove on one day.



- (a) Work out the interquartile range of the distances.

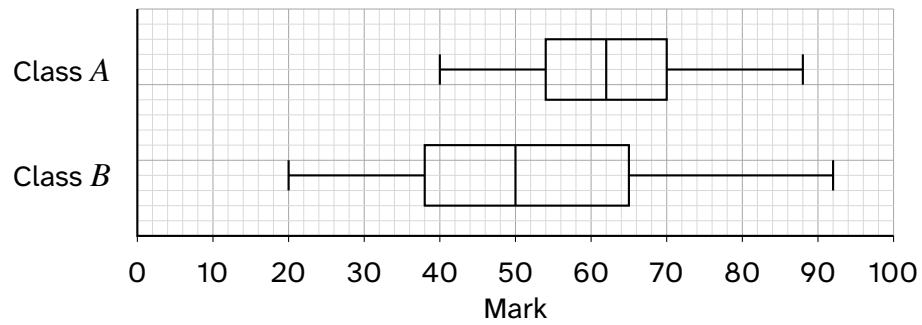
..... km
(2)

- (b) Tom says,
“About a quarter of the drivers drove more than 180 km.”
Is Tom correct?
Give a reason for your answer.

.....
.....
(1)

(Total for Question 2 is 3 marks)

- 3 The box plots show the marks of two classes in a test.



- (a) Compare the distributions of the marks for the two classes.

(2)

- (b) Jess says, "The box plots show that class *B* had more students than class *A*." Explain why Jess is wrong.

(1)

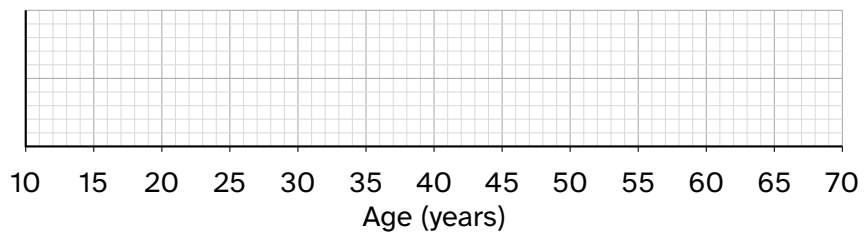
(Total for Question 3 is 3 marks)

- 4 The ages of people at a meeting are summarised below.

The youngest person was 18 and the oldest was 64

The lower quartile was 25, the median was 34 and the interquartile range was 17

Draw a box plot for this information.



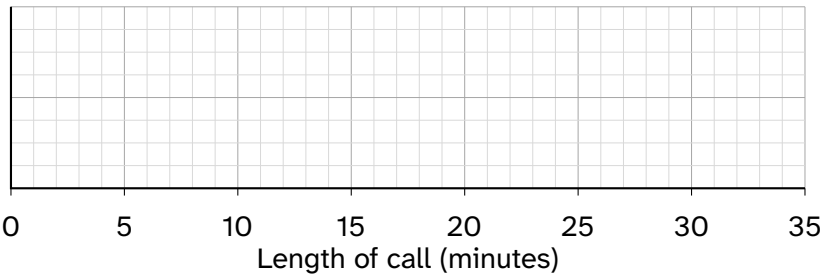
(3)

(Total for Question 4 is 3 marks)

5 The table gives some information about the lengths, in minutes, of 60 phone calls.

Shortest call	2 minutes
Lower quartile	5 minutes
Median	9 minutes
Interquartile range	9 minutes
Range	29 minutes

(a) Draw a box plot to represent this information.



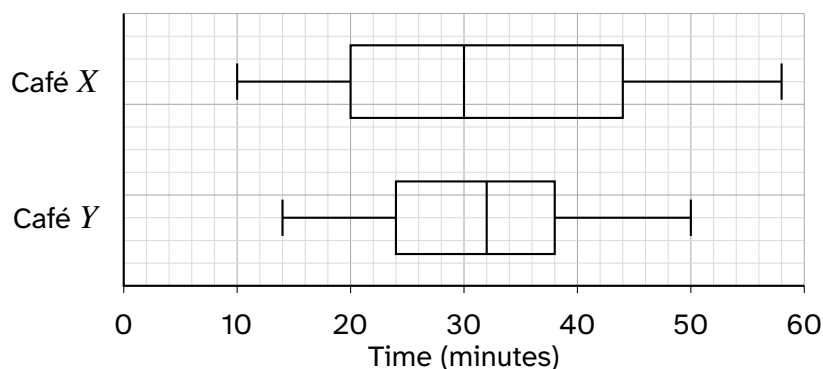
(3)

(b) Work out an estimate for the number of these calls that lasted more than 5 minutes.

(2)

(Total for Question 5 is 5 marks)

- 6 The box plots show information about the lengths of time customers spent in two cafés, X and Y , one Saturday.



- (a) Nia says,
“Half of the customers at Café X spent more than 44 minutes there.”
Is Nia correct?
Give a reason for your answer.

(1)

- (b) Owen says,
“About a quarter of the customers at Café Y spent less than 24 minutes there.”
Is Owen correct?
Give a reason for your answer.

(1)

- (c) Compare the distribution of the times at Café X with the distribution of the times at Café Y .

(2)

(Total for Question 6 is 4 marks)

- 7 The table gives information about the ages of the members of a choir.

Youngest age	16 years
Lower quartile	32 years
Median	44 years
Interquartile range	26 years
Range	54 years

Zak used the information in the table to draw this box plot.
He made two mistakes.



Describe **each** mistake.

(2)

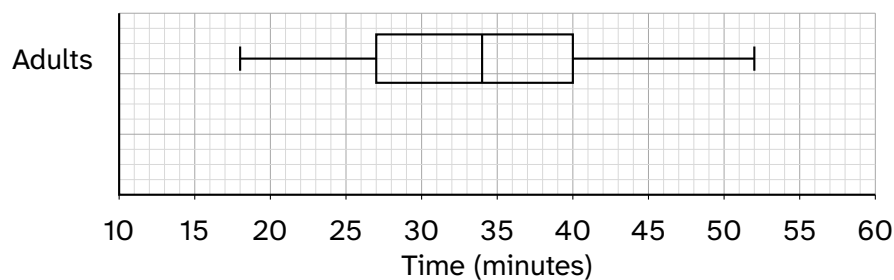
(Total for Question 7 is 2 marks)

- 8 The stem and leaf diagram shows the times, in minutes, that 19 students took to complete a task.

1	2 5 8
2	0 3 4 6 9
3	1 1 4 7 8
4	2 5 6
5	0 3 7

Key: 1 | 2 represents 12 minutes

The box plot shows information about the times that some adults took to complete the same task.



- (a) On the grid, draw a box plot for the students' times.

(3)

- (b) Compare the distribution of the students' times with the distribution of the adults' times.

(2)

(Total for Question 8 is 5 marks)
