THIRD SPACE LEARNING

GCSE Exam Questions

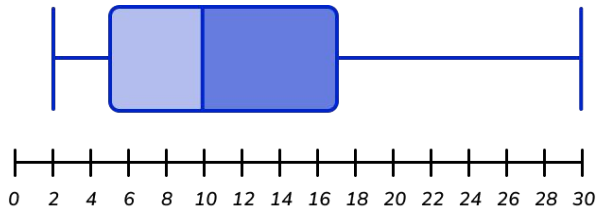
Box Plots | Statistics

GCSE Exam Questions: Box Plots

1) Here is some information about the weights (to the nearest kg) of some dogs at a show:

Lightest dog	2
Heaviest dog	26
Median	10
Upper quartile	17
Interquartile range	10

Here is a box plot drawn to show this information.



Make two criticisms of the box plot.

1. _____

_____

_____

2. _____

_____

_____

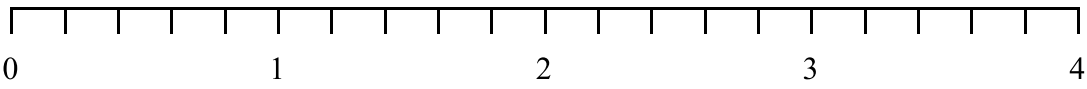
(2 marks)

GCSE Exam Questions: Box Plots

2) Here is some information about the distance (in *km*) travelled to school by a group of 120 students:

Shortest distance	0.1
Lower quartile	0.5
Median	1.4
Range	3.9
Interquartile range	1.5

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



(3)

(b) Explain why a box plot is useful for representing this information.

(1)

(c) Work out an estimate for the number of students that travel 2km or less to get to school.

(2)

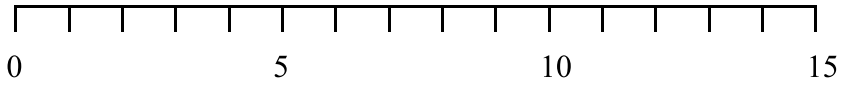
(6 marks)

GCSE Exam Questions: Box Plots

3) Here is some information about the daily maximum temperature (in °C) in January:

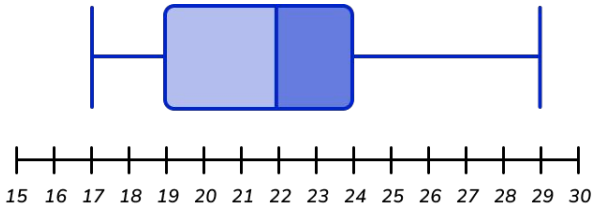
Lowest temperature	1
Lower quartile	4
Median	6
Interquartile range	5
Highest temperature	12

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



(3)

(b) The box plot below shows some information about the daily maximum temperature (in °C) in June:



Make two comments to compare the distributions.

1. _____

_____

_____

2. _____

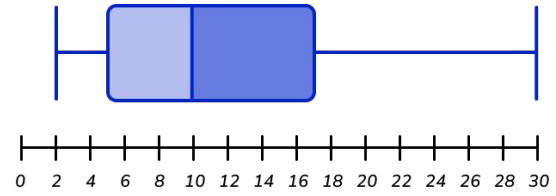
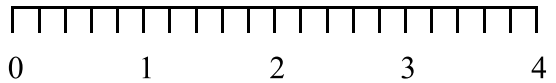
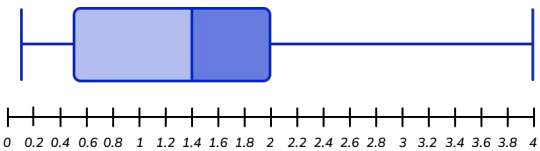
_____

_____

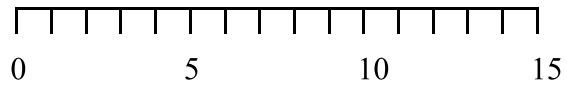
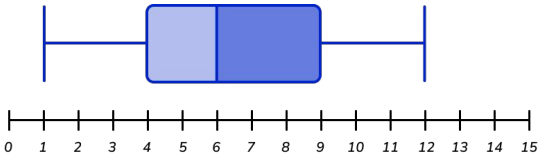
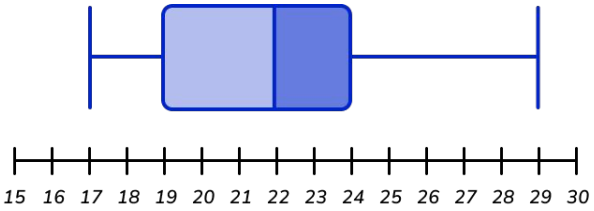
(2)

(5 marks)

GCSE Exam Questions: Box Plots Answers

	Question	Answer	Marks
1)	Here is some information about the weights (to the nearest kg) of some dogs at a show: **Lightest dog** 2 **Heaviest dog** 26 **Median** 10 **Upper quartile** 17 **Interquartile range** 10 Here is a box plot drawn to show this information.  Make two criticisms of the box plot.	The highest value has been drawn at 30 instead of 26 The lower quartile should be at 7 instead of 5	**(1)** **(1)**
2)	Here is some information about the distance (in *km*) travelled to school by a group of students: **Shortest distance** 0.1 **Lower quartile** 0.5 **Median** 1.4 **Range** 3.9 **Interquartile range** 1.5		
(a)	Draw a box plot to represent this information.  	**(a)** *UQ* = 2 or *Highest Value* = 4 **seen** Drawing a box with three correctly plotted values Fully correct box plot  	**(1)** **(1)** **(1)**
(b)	Explain why a box plot is useful to represent this information.	**(b)** The dataset contains extreme values	**(1)**
(c)	Work out an estimate for the number of students that travel 2km or less to get to school.	**(c)** 120 x 0.75 **oe** 30	**(1)** **(1)**

GCSE Exam Questions: Box Plots Answers

	Question	Answer	Marks
3)	Here is some information about the daily maximum temperature (in °C) in January: Lowest temperature: 1 Lower quartile: 4 Median: 6 Interquartile range: 5 Highest temperature: 12		
(a)	Draw a box plot to show this information. 	**(a)** $UQ = 9$ Drawing a box with three correctly plotted values Fully correct box plot 	**(1)** **(1)** **(1)**
(b)	The box plot below shows some information about the daily maximum temperature (in °C) in June:  Make two comments to compare the distributions.	**(b)** The median/average temperature was higher in June than January **oe** The interquartile range of temperatures were the same *OR* the ranges were similar *OR* both sets of data have the same variability **oe**	**(1)** **(1)**

Where to go next?

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