

# GCSE Exam Questions on Box Plots & IQR (Grade B)

1. The times, in seconds, taken by 11 teachers to solve a puzzle are listed in order

4      12      13      17      18      20      22      24      25      30      34

(a) Find

(i) the lower quartile,

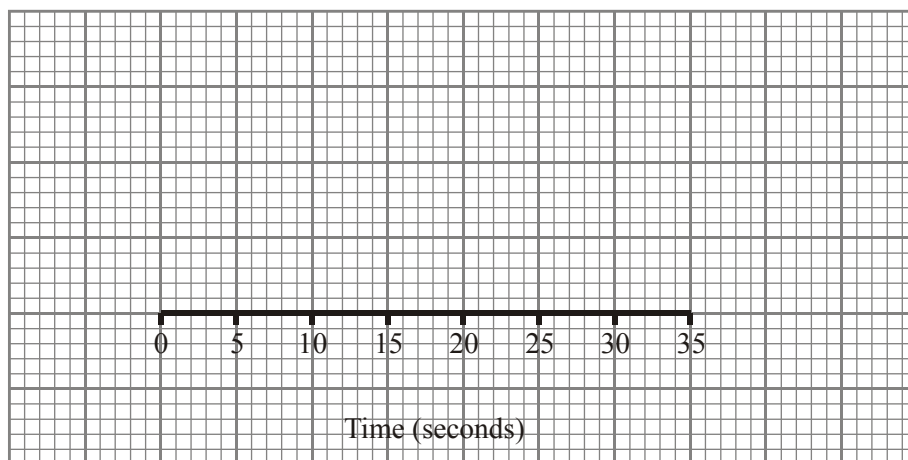
.....seconds

(ii) the interquartile range.

.....seconds

(2)

(b) Draw a box plot for this data.



(3)

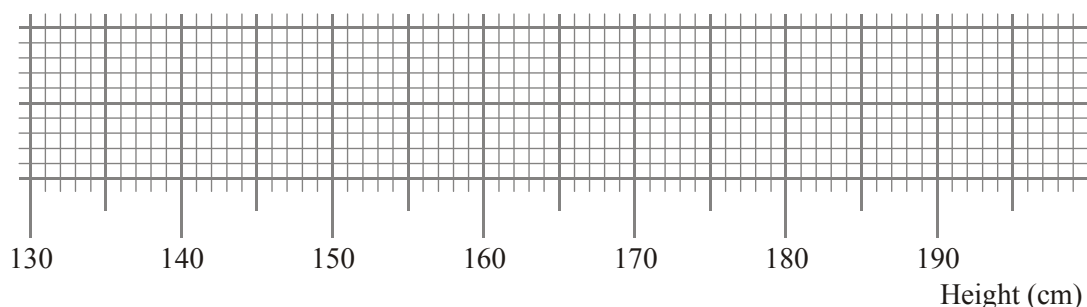
(Total 5 marks)

2. Lottie measured the heights, in centimetres, of the girls in her class.

The table shows some information about the heights.

Height of shortest girl	137 cm
Height of tallest girl	180 cm
Median	162 cm
Lower quartile	148 cm
Upper quartile	172 cm

On the grid, draw a box plot to show this information.



3. Mary recorded the heights, in centimetres, of the girls in her class.

She put the heights in order.

132	144	150	152	160	162	162	167
167	170	172	177	181	182	182	

- (a) Find

- (i) the lower quartile,

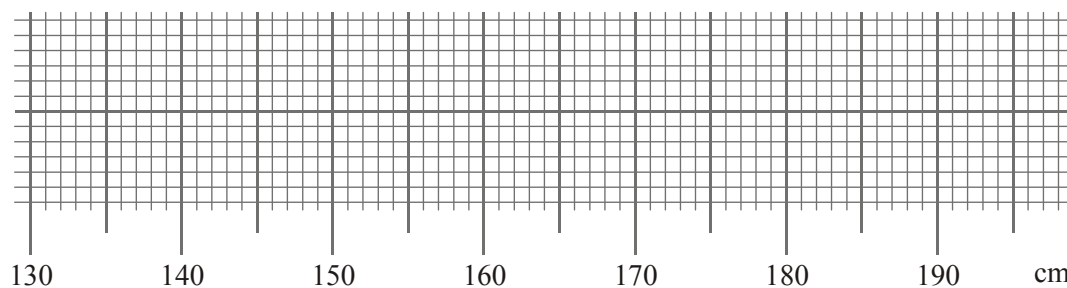
..... cm

- (ii) the upper quartile.

..... cm

(2)

- (b) On the grid, draw a box plot for this data.



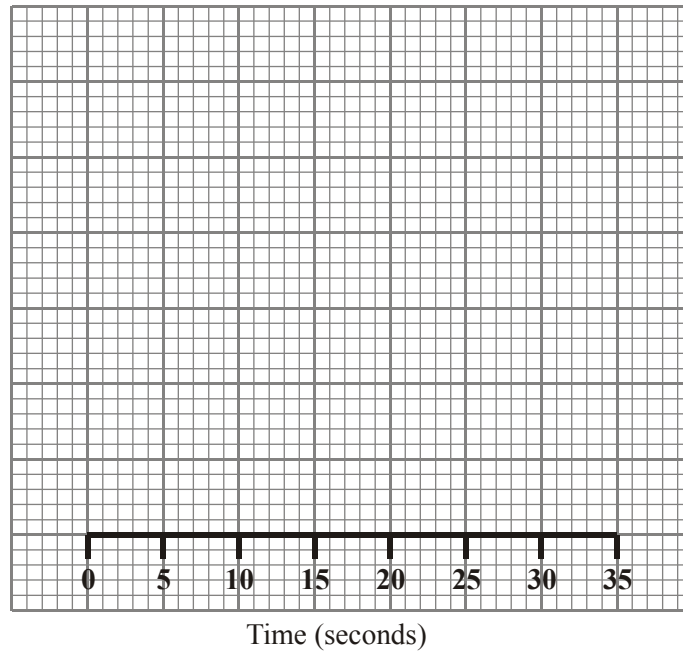
(3)

(Total 5 marks)

4. The times, in seconds, taken by 11 teachers to solve a puzzle are listed in order

4      12      13      17      18      20      22      24      25      30      34.

Draw a box plot for this data.

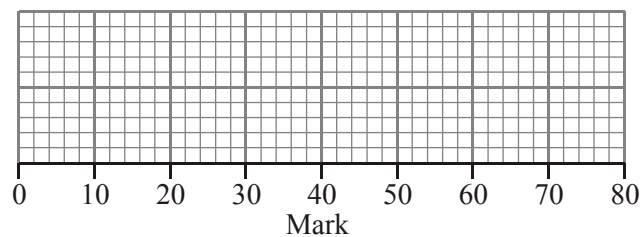


**(Total 3 marks)**

5. Some students took a test.  
The table shows information about their marks.

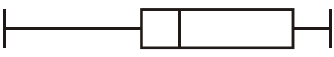
Minimum mark	10
Lower quartile	33
Interquartile range	35
Median mark	43
Range	65

Use this information to draw a box plot.



**(Total 3 marks)**

## ANSWERS

1. (a) (i) 13 2
- (ii) 12
- 25 – 13
- (b) correct box plot 3
- B1 for median marked at 20*  
*B1ft for box ends at lq (13) and uq (25) (ft on (a))*  
*B1 for end of whiskers at 4 and 34*
- [5]
2. correct boxplot 2
- B2 fully correct boxplot*  
*(B1 for any 2 features correct in a drawn box plot.*  
*For example: correct whisker from 137 to 148 (as the lq of the box))*
- [2]
3. (a) (i) 152 2
- (ii) 177
- (b) 3
- B1 for median marked at 167*  
*B1 ft for position of box with its ends at “152” and “177”*  
*B1 for position of whiskers with ends at 132 and 182*  
*NB: For any points plotted between 141 and 149 give a tolerance of an extra  $\pm 1$  square*
- [5]
4. Correct box plot 3
- B1 for median marked at 20*  
*B1ft for box ends at lq (13) and uq (25)*  
*B1 for end of whiskers at 4 and 34*
- [3]
5.  3
- 10 33 43 68 75
- M1 for 33 and 68 marked*  
*M1 for maximum mark at 75 and minimum mark at 10*  
*A1 for completely correct box plot*
- [3]