

Name:

Exam Style Questions

Quartiles



Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Video Tutorial

www.corbettmaths.com/contents

Video 57b



Answers and Video Solutions



1. Seven students sit a test.
Here are their results



58%

61%

64%

66%

67%

68%

70%

- (a) Find the median.

66%

(1)

- (b) Find the lower quartile score.

61%

(1)

- (c) Find the upper quartile score.

68%

(1)

- (d) Work out the interquartile range.

68 - 61

7%

(1)

2. The speeds of 11 cars passing a speed camera are recorded below.



19 22 26 28 28 29 29 30 30 31 36

(a) Find the median.

29
.....
(1)

(b) Find the ^{Lower quartile} median score.

26
.....
(1)

(c) Find the ^{upper quartile} median score.

30
.....
(1)

(d) Work out the interquartile range.

30 - 26

4
.....
(1)

3. The heights of 7 footballers are measured.



180cm 179cm 185cm 177cm 172cm 190cm 188cm

172 177 179 180 185 188 190

Work out the upper quartile of the heights.

188cm

(1)

4. 11 people solve a puzzle.



The times taken, in minutes, by each person to solve the puzzle are shown below.

3 4 7 8 8 9 9 9 10 13
~~8~~ ~~3~~ ~~7~~ ~~8~~ ~~9~~ ~~13~~ ~~4~~ ~~9~~ ~~10~~ ~~9~~

(a) Work out the lower quartile.

7

.....minutes
(1)

(b) Work out the ^{upper}~~lower~~ quartile.

9

.....minutes
(1)

5. Here are the ages of 15 people.



24 26 29 (30) 31 36 36 (37) 39 40 43 (48) 50 51 55

Work out the interquartile range of the ages.

$$48 - 30 = 18$$

18

.....
(2)

6. 11 students guess the number of jelly beans in a jar.
Here are their guesses.



400 673 (850) 900 1001 1200 1222 1280 (1350) 1371 2600

(a) Work out the range of the guesses.

$$2600 - 400$$

2200

.....
(1)

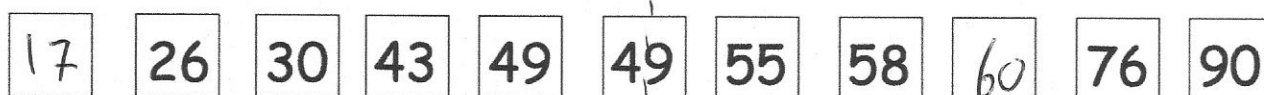
(b) Work out the interquartile range of the guesses.

$$1350 - 850 = 500$$

500

.....
(1)

7. The ages of 11 trees, in years, are shown below.
The ages are arranged from youngest to oldest.



The range of the ages is 73 years.
The interquartile range of the ages is 30 years.

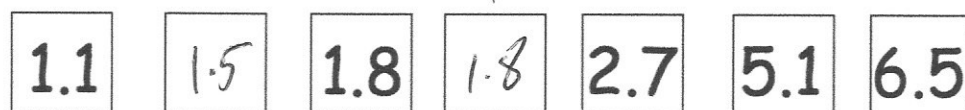
Find the two missing ages.

$$90 - 73 = 17$$

$$30 + 30 = 60$$

(2)

8. Seven judges scored a joke out of 10.
Some of the scores are below.



The median score is half the interquartile range.

The interquartile range is two thirds of the range.

Find the two missing numbers.

$$6.5 - 1.1 = 5.4 \text{ (range)}$$

$$\frac{2}{3} \text{ of } 5.4 = 3.6 \text{ (IQR)}$$

$$5.1 - 3.6 = 1.5$$

$$\text{median} = 3.6 \div 2 = 1.8$$

(2)

9. The students in Class 10A and Class 10B sit an exam.



Here are the scores for each of the 15 students in Class 10A.

12 20 25 (27) 31 32 35 35 36 36 36 (39) 40 41 48

(a) Complete the table below.

Lowest score	12
Lower quartile	27
Median	35
Upper quartile	39
Highest score	48

median = 35
IQR = 12
range = 36

(3)

Here is information about the scores achieved by the students in Class 10B.

Lowest score	14
Lower quartile	30
Median	37
Upper quartile	48
Highest score	50

median = 37
IQR = 18
range = 36

(b) Compare the distribution of the scores achieved by Class 10A with the distribution of the scores achieved by Class 10B.

Class 10B have a higher median ($37 > 35$) so scored better on average.

Class 10B had more spread out scores, as their IQR is larger ($18 > 12$)

(2)