

Name: _____

Exam Style Questions

Medians and Quartiles from Grouped Data (Interpolation)



Corbettmaths

Ensure you have: Pencil, pen, ruler, protractor, pair of compasses and eraser

You may use tracing paper if needed

Guidance

1. Read each question carefully before you begin answering it.
2. Don't spend too long on one question.
3. Attempt every question.
4. Check your answers seem right.
5. Always show your workings

Revision for this topic

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Video 52



1. 100 students sat a physics examination.
The time they spent revising is shown in the table.

Hours, h	Frequency
$0 < h \leq 5$	27
$5 < h \leq 10$	44
$10 < h \leq 15$	21
$15 < h \leq 20$	8

By using linear interpolation, find the median time spent revising.

.....hours
(3)

2. Alison measures the heights of her plants in her greenhouse.

Height (x cm)	Frequency
$0 < x \leq 10$	3
$10 < x \leq 20$	7
$20 < x \leq 30$	12
$30 < x \leq 40$	31
$40 < x \leq 50$	27

(a) Find the median height.

.....cm
(3)

(b) Find the lower quartile.

.....cm
(3)

(c) Find the upper quartile.

.....cm
(3)

(d) Find the interquartile range.

.....cm
(1)

3. The weights of some rugby players are recorded in the table below.

Weight (x kg)	Frequency
$60 < x \leq 64$	10
$64 < x \leq 68$	20
$68 < x \leq 72$	30
$72 < x \leq 76$	15
$76 < x \leq 80$	18
$80 < x \leq 84$	7

(a) Calculate an estimate of the mean weight.

.....kg
(3)

(b) Find the median by using linear interpolation.

.....kg
(3)

(c) Calculate the interquartile range.

.....kg
(4)

4. A scheme has been introduced to encourage **younger people** to buy houses. In Sunderland, 1200 houses were bought in 2014 under the scheme. The table below shows the ages of the home buyers.

Age (A years)	Frequency
$20 < A \leq 25$	145
$25 < A \leq 30$	200
$30 < A \leq 35$	94
$35 < A \leq 40$	141
$40 < A \leq 45$	294
$45 < A \leq 50$	326

A brochure is being created that will contain the average age of these home buyers. The brochure writer would like this average to be as low as possible to show that young people are benefitting from the scheme.

Should the brochure contain the mean or the median?
Explain your answer.

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.....

(6)