Name:

Exam Style Questions

Median: Frequency Table

Corbettmaths

Equipment needed: Pen, Calculator

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 51

Answers and Video Solutions

1. The table shows the ages of the players in an under-21 rugby squad.

Age	Frequency
18	5
19	5
20	9
21	4

23

Find the median age.

$\frac{n+1}{2}$ $\frac{23+1}{2} = 12^{th}$ value

20

(2)

2. The table gives information about the number of pets owned by each of 30 students in a class.

Number of pets	Frequency
0	11
1	12
2	6
3	1

Find the median number of pets owned.

$\frac{30+1}{2} = 15.5^{th}$ value

1

(2)

3. The shoe sizes of 100 students are shown in the table.

Shoe Size	Frequency
2	4
3	11
4	12
5	21
6	34
7	18

*

(a) Work out the range of the shoe sizes.

$7 - 2 = 5$

5

.....

(1)

(b) Work out the median shoe size.

$\frac{100+1}{2} = 50.5^{th}$ value

6

.....

(2)

4. The table shows the amounts of money withdrawn from a cash machine.

Amount withdrawn	Frequency
£10	56
£20	41
£30	16
£40	4
£50	1
£60	2

120

Callum says that the median amount withdrawn is £30.

Is Callum correct?
Explain your answer.

$\frac{120+1}{2} = 60.5^{th}$ value.

No. The median withdrawal is £20

(2)

5. A survey was taken of the amount of money spent at a greengrocers by 50 shoppers on a Saturday.
The table shows the results.

Amount spent, m, (£)	Frequency
$0 < m \leq 5$	4
$5 < m \leq 10$	12
$10 < m \leq 15$	26
$15 < m \leq 20$	8

*

50

Which class interval contains the median?
You **must** show your working.

Accept either

$\frac{50}{2}$ = 25th value.

$\frac{51}{2}$ = 25.5th value.

..... 10 ..... < m ≤ ..... 15 .....

(1)

6. George records the times taken by 20 students to complete a puzzle.

Time, t (minutes)	Number of Pupils
$0 < t \leq 3$	1
$3 < t \leq 6$	2
$6 < t \leq 9$	5
$9 < t \leq 12$	3
$12 < t \leq 15$	5
$15 < t \leq 18$	4

*

Which time interval contains the median time taken to complete the puzzle?

Accept either

$\frac{20}{2}$ = 10th value.

$\frac{21}{2}$ = 10.5th value

$9 < t \leq 12$

.....

(1)

7. A manager recorded how long each customer spent in his supermarket.
The table shows his results.

Time, t (minutes)	Frequency
$0 < t \leq 10$	24
$10 < t \leq 20$	31
$20 < t \leq 30$	50 *
$30 < t \leq 40$	35
$40 < t \leq 50$	60

200

Which class interval contains the median?

Accept either

$\frac{200}{2} = 100^{th}$ value

$\frac{201}{2} = 100.5^{th}$ value

$20 < t \leq 30$

.....

(1)

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8. The table shows the heights of some students.

Height (h cm)	Frequency
$110 < h \leq 120$	8
$120 < h \leq 130$	16
$130 < h \leq 140$	25
$140 < h \leq 150$	32 *
$150 < h \leq 160$	19

100

Find the class interval in which the median lies.

Accept either

$\frac{100}{2} = 50^{th}$ value

$\frac{101}{2} = 50.5^{th}$ value

$140 < h \leq 150$

.....

(1)

9. The frequency table below shows the piano grade of the 22 students in a class.

Grade	Frequency
2	3
3	3
4	9
5	2
6	4
7	1

22

Some new students, who are all grade 7, join the class.
The median piano grade remains the same.

Work out the greatest possible number of new students.

Before

$\frac{22+1}{2} = 11.5^{th}$ value

median = 4.

As all students joining are grade 7, 3+3+9 = 15 students grades 2, 3, 4.

Position of median would be 15^{th} value.

$\frac{n+1}{2} = 15$

$n+1 = 30$

$n = 29$.

$29 - 22 = 7$

7 new students

(3)

Check

new

2 2 2 3 3 3 4 4 4 4 4 4 4 4 5 5 6 6 6 6 7 7 7 7 7 7 7 7

10. Lauren plays 30 football matches.

The table below shows some information about the number of goals she scored in each game.

Number of goals	Frequency
0	6
1	x 9
2	y
3	2

← median between 15th & 16th value.

30

The median number of goals Lauren scored is 1.5

Work out the values of x and y.

$\frac{30+1}{2}$ = 15.5th value

$6 + 9 + y + 2 = 30$

$y = 13$

x = 9 and y = 13

(3)