Median

Grade 1 | Worked solutions

GCSE Statistics topic practice

1 Here are the heights, in cm, of five sunflowers.

142 128 150 135 131

a. Write the heights in order of size. Start with the smallest. (1)

b. Write down the median height. (1)

c. How many of the sunflowers are taller than the median height? (1)

(3 marks)

a)

128, 131, 135, 142, 150

b) the middle value is the 3rd value

median = 135 cm

c)

142 and 150 are more than 135

2 sunflowers

a) 128, 131, 135, 142, 150 b) 135 cm c) 2

2 Seven people wait for a bus. Here are the times, in minutes, that they wait.

8 3 12 5 9 4 7

a. Work out the median time. (2)

b. An eighth person waits for 10 minutes.
Work out the median time for all eight people. (2)

(4 marks)

a) put the times in order

3, 4, 5, 7, 8, 9, 12

The middle value is the 4th value

median = 7

b) put all eight times in order

3, 4, 5, 7, 8, 9, 10, 12

The middle two values are 7 and 8

(7 + 8) ÷ 2 = 7.5

a) 7 minutes b) 7.5 minutes

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3 Five friends count the text messages they each sent yesterday.

6 2 9 4 7

Dev says, "The median is 9 because 9 is in the middle."

a. Explain the mistake Dev has made. (1)

b. Work out the correct median. (2)

c. The friend who sent 9 messages had counted wrongly. She really sent 90 messages.
What happens to the median? Give a reason for your answer. (1)

(4 marks)

a)

He did not put the numbers in order first

b) put the numbers in order

2, 4, 6, 7, 9

The middle value is the 3rd value

median = 6

c)

2, 4, 6, 7, 90

The middle value is still 6

The median stays the same

a) not in order b) 6 c) stays the same, 6

4 Eight pupils in class A take a spelling test. Here are their scores out of 20.

12 17 9 15 20 11 15 14

a. Work out the median score for class A. (2)

b. Amy is in class A. She scored 14.
Is Amy's score above or below the median for her class? (1)

c. The median score for class B is 12.
Which class did better in the test? Give a reason for your answer. (1)

(4 marks)

a) put the scores in order

9, 11, 12, 14, 15, 15, 17, 20

The middle two values are 14 and 15

$(14 + 15) \div 2 = 14.5$

b)

$14 < 14.5$

Below the median

c)

$14.5 > 12$

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Class A has the higher median

so class A did better

a) 14.5 b) below c) class A, higher median

5 Six people are waiting in a queue. Here are their ages, in years, in order.
One age is missing.

12 15 18 _____ 25 31

The median age is 20.

a. Work out the missing age. (2)

b. A seventh person, aged 40, joins the queue.
Work out the median age of the seven people. (2)

c. How many of the seven people are younger than this median age? (1)

(5 marks)

a) the median is halfway between the 3rd and 4th ages

20 is 2 more than 18

so the missing age is 2 more than 20

$20 + 2 = 22$

Check

$(18 + 22) \div 2 = 20$

b)

12, 15, 18, 22, 25, 31, 40

The middle value is the 4th value

median = 22

c)

12, 15 and 18 are less than 22

3 people

a) 22 b) 22 c) 3

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