6.4 Averages: Mean, Median, Mode and Range: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Here are 6 numbers: 49, 40, 41, 32, 8, 9.
Work out the median.

(2)

2 Here are 8 numbers: 55, 27, 27, 27, 39, 27, 45, 35.
Work out the median.

(2)

3 The mean of 5 numbers is 16. One of the numbers, 4, is removed. Work out the mean of the remaining 4 numbers.

(3)

4 Here are 6 numbers: 28, 27, 26, 9, 9, 9.
Work out the mean, the median and the range.

(3)

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5 Here are some numbers: 9, 24, 17, 15, 21, 17, 5, 16, 11.
Work out (a) the mode and (b) the range.

(2)

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6 Here are 8 numbers: 34, 58, 17, 9, 30, 49, 19, 45.
Work out the median.

(2)

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7 The mean of 6 numbers is 8. One of the numbers, 20, is removed. Work out the mean of the remaining 5 numbers.

(3)

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8 Here are 6 numbers: 56, 7, 8, 36, 30, 27.
Work out the median.

(2)

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9 Here are some ages of players in a squad in years: 7, 32, 38, 10.
Work out the mean.

(2)

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10 Here are 6 numbers: 15, 12, 52, 8, 12, 49.
Work out the median.

(2)

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11 The mean of 4 numbers is 13. 3 of the numbers are 13, 8, 24. Work out the other number.

(3)

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12 Here are 8 numbers: 17, 22, 28, 24, 12, 10, 14, 17.
Work out the mean, the median and the range.

(3)

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13 Here are some numbers of goals scored by a team in different matches: 24, 33, 7, 3.
Work out the mean.

(2)

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14 Here are 8 numbers: 60, 31, 1, 23, 45, 37, 20, 7.
Work out the median.

(2)

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15 Calculate the mean (average) for each complete list. Give answers to 1 decimal place if needed.

(a) List: 6, 9, 11, 4 **(1)**

.....

(b) List: 5, 7, 6 **(1)**

.....

16 Here are 8 numbers: 10, 15, 23, 6, 11, 7, 14, 10.
Work out the mean, the median and the range.

(3)

17 Here are some numbers: 14, 18, 15, 13, 16, 18, 12.
Work out (a) the mode and (b) the range.

(2)

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18 Here are 8 numbers: 42, 47, 55, 18, 15, 33, 8, 59.
Work out the median.

(2)

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19 The times in minutes that 8 people spent in a queue are: 10, 13, 21, 25, 25, 26, 30, 94.
Work out the mean and the median. Which average is a better summary of a typical wait? Give a reason.

(4)

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Mark scheme · 6.4 Averages: Mean, Median, Mode and Range: 1-hour Pack

Question 1

puts the numbers in order: 8, 9, 32, 40, 41, 49	M1
36 cao	A1

Answer: **36**

Question 2

puts the numbers in order: 27, 27, 27, 27, 35, 39, 45, 55	M1
31 cao	A1

Answer: **31**

Question 3

5 x 16 = 80	M1
(80 - 4) ÷ 4	M1
19 cao	A1

Answer: **19**

Question 4

mean 18	B1
median 17.5	B1
range 19	B1

Answer: **mean 18, median 17.5, range 19**

Question 5

(a) 17	B1
(b) 19	B1

Answer: **(a) 17, (b) 19**

Question 6

puts the numbers in order: 9, 17, 19, 30, 34, 45, 49, 58	M1
32 cao	A1

Answer: **32**

Question 7

6 x 8 = 48	M1
(48 - 20) ÷ 5	M1
5.6 cao	A1

Answer: **5.6**

Question 8

puts the numbers in order: 7, 8, 27, 30, 36, 56	M1
28.5 cao	A1

Answer: **28.5**

Question 9

adds all 4 values: 87	M1
21.75 cao	A1

Answer: **21.75**

Question 10

puts the numbers in order: 8, 12, 12, 15, 49, 52	M1
13.5 cao	A1

Answer: **13.5**

Question 11

4 x 13 = 52	M1
52 - 45	M1
7 cao	A1

Answer: **7**

Question 12

mean 18	B1
median 17	B1
range 18	B1

Answer: **mean 18, median 17, range 18**

Question 13

adds all 4 values: 67	M1
16.75 cao	A1

Answer: **16.75**

Question 14

puts the numbers in order: 1, 7, 20, 23, 31, 37, 45, 60	M1
27 cao	A1

Answer: **27**

Question 15

(a) mean 7.5 stated cao	B1

(a) Answer: **7.5**

(b) mean 6 stated cao	B1

(b) Answer: **6**

Question 16

mean 12	B1
median 10.5	B1
range 17	B1

Answer: **mean 12, median 10.5, range 17**

Question 17

(a) 18	B1
(b) 6	B1

Answer: **(a) 18, (b) 6**

Question 18

puts the numbers in order: 8, 15, 18, 33, 42, 47, 55, 59	M1
37.5 cao	A1

Answer: **37.5**

Question 19

mean 30.5	B1
median 25	B1
median chosen	B1
reason: 94 is an extreme value which pulls the mean up	B1

Answer: **mean 30.5, median 25; the median is better because 94 is an extreme value**

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