6.4 Averages: Mean, Median, Mode and Range: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Two different classes took the same short test. Class A scores: 6, 7, 8, 7, 9. Class B scores: 2, 7, 8, 7, 12. For each class calculate the mean and median. Which class shows more variation in scores by comparing ranges? Give a short reason.

(a) Calculate the mean and median for Class A. **(2)**

(b) Calculate the mean and median for Class B. **(2)**

(c) Which class shows more variation by comparing ranges? Give a short reason. **(1)**

2 Here are 10 numbers: 28, 12, 16, 20, 13, 10, 10, 9, 4, 10.
Work out the mean, the median and the range.

(3)

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3 Here are 8 numbers: 4, 18, 10, 17, 15, 16, 14, 18.
Work out the mean, the median and the range.

(3)

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4 The mean of 6 numbers is 25. One of the numbers, 12, is removed. Work out the mean of the remaining 5 numbers.

(3)

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5 Here are 8 numbers: 7, 28, 24, 23, 12, 13, 30, 7.
Work out the mean, the median and the range.

(3)

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6 Here are some numbers of goals scored by a team in different matches: 9, 17, 14, 27. Work out the mean.

(2)

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7 The times in minutes that 8 people spent in a queue are: 14, 21, 21, 25, 26, 27, 29, 85. 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: 30-minute Pack

Question 1

(a) correct sum or method for mean (6+7+8+7+9 = 37) oe	M1
(a) mean 7.4 and median 7 stated cao	A1

(a) Answer: **mean 7.4; median 7**

(b) correct sum or method for mean (2+7+8+7+12 = 36) oe	M1
(b) mean 7.2 and median 7 stated cao	A1

(b) Answer: **mean 7.2; median 7**

(c) Class B, with reason that its range (10) is greater than Class A's range (3) oe	B1

(c) Answer: **Class B; range A = 3, range B = 10, so Class B shows more variation**

Question 2

mean 13.2	B1
median 11	B1
range 24	B1

Answer: **mean 13.2, median 11, range 24**

Question 3

mean 14	B1
median 15.5	B1
range 14	B1

Answer: **mean 14, median 15.5, range 14**

Question 4

6 x 25 = 150	M1
(150 - 12) ÷ 5	M1
27.6 cao	A1

Answer: **27.6**

Question 5

mean 18	B1
median 18	B1
range 23	B1

Answer: **mean 18, median 18, range 23**

Question 6

adds all 4 values: 67	M1
16.75 cao	A1

Answer: **16.75**

Question 7

mean 31	B1
median 25.5	B1
median chosen	B1
reason: 85 is an extreme value which pulls the mean up	B1

Answer: **mean 31, median 25.5; the median is better because 85 is an extreme value**

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