6.5 Averages from Frequency Tables: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The numbers of pets owned by 23 pupils are: 6, 8, 5, 7, 6, 7, 6, 7, 6, 6, 7, 6, 7, 8, 6, 8, 7, 5, 5, 4, 8, 6, 7.
Complete a frequency table to find how many pupils own 4 pets.

(2)

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2 The numbers of pets owned by 14 pupils are: 5, 4, 2, 5, 2, 5, 1, 3, 3, 4, 5, 1, 5, 2.
Complete a frequency table to find how many pupils own 1 pets.

(2)

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3 The table shows the number of goals for a group of people.
number of goals = 3: frequency 10; number of goals = 4: frequency 5; number of goals = 5: frequency 1; number of goals = 6: frequency 9; number of goals = 7: frequency 3.
Work out the median.

(3)

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4 Here are 6 numbers: 30, 5, 26, 19, 23, 23.
Work out the mean, the median and the range.

(3)

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5 The table shows the number of pets for a group of people.
number of pets = 0: frequency 4; number of pets = 1: frequency 9; number of pets = 2: frequency 5; number of pets = 3: frequency 10; number of pets = 4: frequency 8.
Work out the range.

(2)

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6 Here are 6 numbers: 25, 27, 20, 12, 26, 25.
Work out the mean, the median and the range.

(3)

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7 The numbers of pets owned by 19 pupils are: 7, 5, 6, 7, 7, 7, 7, 4, 4, 6, 7, 3, 5, 4, 7, 4, 6, 6, 7.
Complete a frequency table to find how many pupils own 5 pets.

(2)

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8 Here are 10 numbers: 13, 28, 9, 7, 6, 26, 15, 30, 19, 13.
Work out the mean, the median and the range.

(3)

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9 The table shows the number of pets for a group of people.
number of pets = 3: frequency 7; number of pets = 4: frequency 11; number of pets = 5: frequency 3; number of pets = 6: frequency 6; number of pets = 7: frequency 5.
Work out the range.

(2)

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10 Here are 8 numbers: 20, 21, 7, 28, 14, 18, 14, 14.
Work out the mean, the median and the range.

(3)

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11 The table shows the number of pets for a group of people.
number of pets = 2: frequency 5; number of pets = 3: frequency 3; number of pets = 4: frequency 8; number of pets = 5: frequency 3; number of pets = 6: frequency 10; number of pets = 7: frequency 3.
Work out the total frequency and the mode.

(2)

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12 The table shows the number of books read for a group of people.
number of books read = 1: frequency 6; number of books read = 2: frequency 5; number of books read = 3: frequency 6; number of books read = 4: frequency 2; number of books read = 5: frequency 8.
Work out the median.

(3)

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13 The numbers of pets owned by 22 pupils are: 3, 5, 2, 5, 2, 4, 5, 1, 1, 1, 2, 3, 4, 3, 2, 1, 3, 2, 5, 4, 5, 1.
Complete a frequency table to find how many pupils own 1 pets.

(2)

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14 The table shows the number of goals for a group of people.
number of goals = 2: frequency 1; number of goals = 3: frequency 4; number of goals = 4: frequency 2; number of goals = 5: frequency 1; number of goals = 6: frequency 11; number of goals = 7: frequency 5.
Work out the median.

(3)

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15 The numbers of pets owned by 15 pupils are: 4, 5, 7, 3, 3, 7, 7, 7, 3, 6, 4, 7, 5, 3, 4.
What fraction of the pupils own exactly 5 pets? Give your answer in its simplest form.

(2)

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16 From the frequency table below, find the median.
Score: 2, 3, 4, 5, 6
Frequency: 1, 2, 4, 2, 1

(2)

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17 A gym records the time, in minutes, that 20 members spent on a treadmill.
Class intervals: 0-19, 20-39, 40-59
Frequency: 6, 9, 5
Estimate the mean time spent on the treadmill.

(3)

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18 Write down the mode of 2, 4, 4, 7, 9.

(1)

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19 The mean of 18 numbers is 12. Three of these numbers, with a mean of 8, are removed.
Find the mean of the remaining 15 numbers.

(3)

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20 Find the median of 10, 2, 6, 8.

(1)

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Mark scheme · 6.5 Averages from Frequency Tables: 1-hour Pack

Question 1

systematic counting or a tally of the data	M1
1 cao	A1

Answer: **1**

Question 2

systematic counting or a tally of the data	M1
2 cao	A1

Answer: **2**

Question 3

28 values in total, median at position 14.5	M1
cumulative frequency used	M1
4 cao	A1

Answer: **4**

Question 4

mean 21	B1
median 23	B1
range 25	B1

Answer: **mean 21, median 23, range 25**

Question 5

4 - 0	M1
4 cao	A1

Answer: **4**

Question 6

mean 22.5	B1
median 25	B1
range 15	B1

Answer: **mean 22.5, median 25, range 15**

Question 7

systematic counting or a tally of the data	M1
2 cao	A1

Answer: **2**

Question 8

mean 16.6	B1
median 14	B1
range 24	B1

Answer: **mean 16.6, median 14, range 24**

Question 9

7 - 3	M1
4 cao	A1

Answer: **4**

Question 10

mean 17	B1
median 16	B1
range 21	B1

Answer: **mean 17, median 16, range 21**

Question 11

total 32	B1
mode 6	B1

Answer: **total 32, mode 6**

Question 12

27 values in total, median at position 14	M1
cumulative frequency used	M1
3 cao	A1

Answer: **3**

Question 13

systematic counting or a tally of the data	M1
5 cao	A1

Answer: **5**

Question 14

24 values in total, median at position 12.5	M1
cumulative frequency used	M1
6 cao	A1

Answer: **6**

Question 15

frequency 2 found	M1
2/15 cao	A1

Answer: **2/15**

Question 16

correct cumulative frequency and middle position: total = 10 so median is average of 5th and 6th values	M1
median = 4 cao	A1

Answer: **4**

Question 17

midpoints 9.5, 29.5 and 49.5 identified	M1
sum of fx = 570 calculated	M1
mean = 28.5 cao	A1

Answer: **28.5**

Question 18

mode = 4 cao	B1

Answer: **4**

Question 19

total of the 18 numbers = 216	M1
remaining sum = 216 - 24 = 192 and remaining count = 15	M1
mean = 12.8 cao	A1

Answer: **12.8**

Question 20

median = 7 cao	B1

Answer: **7**

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