6.2 Collecting Data, Tally and Frequency Tables: 1-hour Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 For each set of data, say whether it is categorical, discrete or continuous.
(a) the types of pet owned
(b) the time taken to run 100 m

(2)

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2 Hamza wants to find the mean number of hours of sleep of pupils at a school of 1360 pupils. He asks the 7 members of the school football team. Give a reason why this might not give a reliable answer.

(2)

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3 For each set of data, say whether it is categorical, discrete or continuous.
(a) the number of goals in a match
(b) the favourite colours of pupils

(2)

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4 The scores of 18 players in a game are: 17, 14, 19, 21, 15, 11, 10, 3, 19, 4, 11, 18, 11, 26, 25, 25, 11, 26.
Complete a grouped frequency table using the class intervals 0 to 9, 10 to 19 and 20 to 29.

(3)

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5 The numbers of pets owned by 16 pupils are: 7, 6, 5, 7, 6, 7, 3, 4, 4, 6, 6, 3, 7, 5, 6, 4.
What fraction of the pupils own exactly 4 pets? Give your answer in its simplest form.

(2)

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6 For each set of data, say whether it is categorical, discrete or continuous.
(a) the number of siblings pupils have
(b) the types of pet owned

(2)

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7 The scores of 16 players in a game are: 1, 13, 6, 12, 12, 8, 12, 10, 8, 12, 11, 5, 13, 0, 12, 7.
Complete a grouped frequency table using the class intervals 0 to 4, 5 to 9 and 10 to 14.

(3)

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8 For each set of data, say whether it is categorical, discrete or continuous.
(a) the types of pet owned
(b) the heights of pupils

(2)

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9 The numbers of pets owned by 23 pupils are: 4, 6, 4, 3, 3, 4, 5, 7, 3, 5, 6, 4, 6, 4, 3, 4, 5, 6, 6, 7, 6, 7, 6.
What fraction of the pupils own exactly 7 pets? Give your answer in its simplest form.

(2)

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10 A tally chart shows how pupils travel to school. bus: 2 groups of five and 4 more; car: 4 groups of five and 1 more; bike: 2 groups of five and 4 more; walk: 1 group of five and 1 more.
Write the frequency for each method of travel.

(2)

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11 Hamza wants to find the mean number of hours of sleep of pupils at a school of 825 pupils. He asks the 29 members of the school football team. Give a reason why this might not give a reliable answer.

(2)

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

(3)

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13 A tally chart shows how pupils travel to school. bus: 5 groups of five and 1 more; car: 1 group of five and 1 more; bike: 3 groups of five and 2 more; walk: 3 groups of five and 3 more.
Write the frequency for each method of travel.

(2)

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14 Hamza wants to find the mean number of hours of sleep of pupils at a school of 630 pupils. He asks the 10 members of the school football team. Give a reason why this might not give a reliable answer.

(2)

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15 A tally chart shows how pupils travel to school. bus: 6 groups of five and 1 more; car: 6 groups of five and 0 more; bike: 5 groups of five and 1 more; walk: 4 groups of five and 4 more.
Write the frequency for each method of travel.

(2)

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16 Hamza wants to find the mean number of hours of sleep of pupils at a school of 875 pupils. He asks the 37 members of the school football team. Give a reason why this might not give a reliable answer.

(2)

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17 A tally chart shows how pupils travel to school. bus: 3 groups of five and 1 more; car: 2 groups of five and 4 more; bike: 2 groups of five and 2 more; walk: 5 groups of five and 1 more.
Work out the total number of pupils.

(2)

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18 The scores of 12 players in a game are: 21, 11, 10, 12, 11, 14, 13, 18, 24, 15, 10, 19.
Complete a grouped frequency table using the class intervals 10 to 14, 15 to 19 and 20 to 24.

(3)

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19 A tally chart shows how pupils travel to school. bus: 5 groups of five and 3 more; car: 2 groups of five and 4 more; bike: 4 groups of five and 1 more; walk: 5 groups of five and 2 more.
Which method of travel is the mode, and how many pupils is that?

(2)

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20 The scores of 20 players in a game are: 11, 22, 25, 19, 15, 28, 8, 5, 18, 12, 29, 3, 8, 17, 1, 5, 3, 28, 11, 23.
Complete a grouped frequency table using the class intervals 0 to 9, 10 to 19 and 20 to 29.

(3)

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21 Complete the grouped frequency table for shoe lengths (cm). Data from 12 pupils: 19, 21, 20, 22, 19, 23, 21, 20, 22, 24, 20, 21.
Groups: 19-20, 21-22, 23-24.

(a) Fill in the frequencies for each group. **(2)**

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Mark scheme · 6.2 Collecting Data, Tally and Frequency Tables: 1-hour Pack

Question 1

(a) categorical **B1**

(b) continuous **B1**

Answer: **(a) categorical, (b) continuous**

Question 2

identifies that the sample is not random or not representative **M1**

only footballers are asked, who may sleep differently, and the sample is small relative to the school **A1**

Answer: **The sample is not representative of all pupils**

Question 3

(a) discrete **B1**

(b) categorical **B1**

Answer: **(a) discrete, (b) categorical**

Question 4

tally or count of at least one class **M1**

two frequencies correct **A1**

0 to 9: 2, 10 to 19: 11, 20 to 29: 5 cao **A1**

Answer: **0 to 9: 2, 10 to 19: 11, 20 to 29: 5**

Question 5

frequency 3 found **M1**

3/16 cao **A1**

Answer: **3/16**

Question 6

(a) discrete **B1**

(b) categorical **B1**

Answer: **(a) discrete, (b) categorical**

Question 7

tally or count of at least one class **M1**

two frequencies correct **A1**

0 to 4: 2, 5 to 9: 5, 10 to 14: 9 cao **A1**

Answer: **0 to 4: 2, 5 to 9: 5, 10 to 14: 9**

Question 8

(a) categorical **B1**

(b) continuous **B1**

Answer: **(a) categorical, (b) continuous**

Question 9

frequency 3 found **M1**

3/23 cao **A1**

Answer: **3/23**

Question 10

at least two frequencies correct **M1**

bus 14, car 21, bike 14, walk 6 cao **A1**

Answer: **bus 14, car 21, bike 14, walk 6**

Question 11

identifies that the sample is not random or not representative **M1**

only footballers are asked, who may sleep differently, and the sample is small relative to the school **A1**

Answer: **The sample is not representative of all pupils**

Question 12

frequency 3 found **M1**

3/15 **M1**

1/5 cao **A1**

Answer: **1/5**

Question 13

at least two frequencies correct **M1**

bus 26, car 6, bike 17, walk 18 cao **A1**

Answer: **bus 26, car 6, bike 17, walk 18**

Question 14

identifies that the sample is not random or not representative **M1**

only footballers are asked, who may sleep differently, and the sample is small relative to the school **A1**

Answer: **The sample is not representative of all pupils**

Question 15

at least two frequencies correct **M1**

bus 31, car 30, bike 26, walk 24 cao **A1**

Answer: **bus 31, car 30, bike 26, walk 24**

Question 16

identifies that the sample is not random or not representative **M1**

only footballers are asked, who may sleep differently, and the sample is small relative to the school **A1**

Answer: **The sample is not representative of all pupils**

Question 17

frequencies found **M1**

68 cao **A1**

Answer: **68**

Question 18

tally or count of at least one class **M1**

two frequencies correct **A1**

10 to 14: 7, 15 to 19: 3, 20 to 24: 2 cao **A1**

Answer: **10 to 14: 7, 15 to 19: 3, 20 to 24: 2**

Question 19

bus **B1**

28 **B1**

Answer: **bus, 28**

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Question 20

tally or count of at least one class	**M1**
two frequencies correct	**A1**
0 to 9: 7, 10 to 19: 7, 20 to 29: 6 cao	**A1**

Answer: **0 to 9: 7, 10 to 19: 7, 20 to 29: 6**

Question 21

(a) correct counts in groups: 19-20, 21-22, 23-24	**M1**
(a) frequencies 19-20:5, 21-22:5, 23-24:2 cao	**A1**

(a) Answer: **19-20: 5; 21-22: 5; 23-24: 2**

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