6.1 Statistics: 1-hour Pack

Calculator allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A pie chart shows the favourite subject of 90 pupils. The sector angles are: Maths 140 degrees, Science 100 degrees, English 80 degrees, Art 40 degrees.

(a) Work out the number of pupils whose favourite subject is Science. **(2)**

.....

(b) Work out the number of pupils whose favourite subject is Art. **(1)**

.....

(c) How many more pupils chose Maths than chose English? **(2)**

.....

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2 The stem-and-leaf diagram shows the ages, in years, of people at a wedding reception.

1	**2 5 8**
2	0 3 3 6 9
3	1 4 7

Key: 1 | 2 means 12 years

(a) How many people are represented in the diagram? **(1)**

(b) Find the median age. **(2)**

.....

(c) Find the range of the ages. **(1)**

.....

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3 In a pie chart of the favourite sports of 120 pupils, the sector for tennis has an angle of 54°. How many pupils chose tennis?

(2)

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4 The table shows the number of goals for a group of people.
number of goals = 3: frequency 10; number of goals = 4: frequency 9; number of goals = 5: frequency 8; number of goals = 6: frequency 3.
Work out the total frequency and the mode.

(2)

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5 Here are 9 numbers: 33, 20, 34, 54, 39, 17, 44, 32, 54.
Work out the median.

(2)

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6 Here are 10 numbers: 58, 59, 20, 10, 32, 12, 37, 18, 25, 21.
Work out the median.

(2)

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7 Here are 8 numbers: 10, 60, 47, 34, 3, 28, 48, 57.
Work out the median.

(2)

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8 For each set of data, say whether it is categorical, discrete or continuous.
(a) the make of car owned by staff
(b) the number of goals in a match

(2)

---

9 Here are 8 numbers: 32, 39, 30, 10, 13, 9, 27, 11.
Work out the median.

(2)

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10 The table shows the number of goals for a group of people.
number of goals = 0: frequency 4; number of goals = 1: frequency 1; number of goals = 2: frequency 4; number of goals = 3: frequency 12.
Work out the total frequency and the mode.

(2)

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11 The table shows the number of pets for a group of people.
number of pets = 1: frequency 12; number of pets = 2: frequency 11; number of pets = 3: frequency 4; number of pets = 4: frequency 7; number of pets = 5: frequency 9; number of pets = 6: frequency 6.
Work out the median.

(3)

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12 A bar chart shows the number of pupils in a class who own each type of pet: dogs 15, cats 6, fish 30, rabbits 3, hamsters 22.
How many more pupils own dogs than rabbits?

(2)

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13 A bar chart shows the number of pupils in a class who own each type of pet: dogs 28, cats 5, fish 6, rabbits 16, hamsters 23.
Work out the mean number of pupils per pet type.

(3)

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14 Here are 10 numbers: 13, 60, 21, 17, 25, 22, 37, 24, 56, 3.
Work out the median.

(2)

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15 Here are some numbers of text messages received on different days: 28, 5, 36, 37, 7, 27, 17, 3.
Work out the mean.

(2)

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16 Here are 8 numbers: 50, 5, 50, 4, 19, 10, 26, 40.
Work out the median.

(2)

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17 A pie chart shows how 90 pupils get to school. The angle for walking is 112°. What percentage walk? Give your answer to the nearest whole number if needed.

(2)

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18 The mean of 6 numbers is 9. Five of the numbers are 5, 7, 10, 12 and 8.

(a) Find the sixth number. **(3)**

.....

(b) A seventh number, 20, is added to the original six numbers. Work out the new mean of all seven numbers. **(2)**

.....

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Mark scheme · 6.1 Statistics: 1-hour Pack

Question 1

(a) 100/360 x 90 (correct method)	M1
(a) 25 cao	A1

(a) Answer: **25**

(b) 10 cao, ft using pupils per degree = 90/360 = 0.25	B1

(b) Answer: **10**

(c) (140-80)/360 x 90, or Maths count minus English count	M1
(c) 15 cao	A1

(c) Answer: **15**

Question 2

(a) 11 cao	B1

(a) Answer: **11**

(b) Identifies the 6th value in the ordered list of 11 values	M1
(b) 23 cao	A1

(b) Answer: **23**

(c) 25 cao	B1

(c) Answer: **25**

Question 3

54/360 x 120	M1
18 cao	A1

Answer: **18**

Question 4

total 30	B1
mode 3	B1

Answer: **total 30, mode 3**

Question 5

puts the numbers in order: 17, 20, 32, 33, 34, 39, 44, 54, 54	M1
34 cao	A1

Answer: **34**

Question 6

puts the numbers in order: 10, 12, 18, 20, 21, 25, 32, 37, 58, 59	M1
23 cao	A1

Answer: **23**

Question 7

puts the numbers in order: 3, 10, 28, 34, 47, 48, 57, 60	M1
40.5 cao	A1

Answer: **40.5**

Question 8

(a) categorical	B1
(b) discrete	B1

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

Question 9

puts the numbers in order: 9, 10, 11, 13, 27, 30, 32, 39	M1
20 cao	A1

Answer: **20**

Question 10

total 21	B1
mode 3	B1

Answer: **total 21, mode 3**

Question 11

49 values in total, median at position 25	M1
cumulative frequency used	M1
3 cao	A1

Answer: **3**

Question 12

15 - 3 (or the reverse)	M1
12 cao	A1

Answer: **12**

Question 13

adds the five values	M1
78 ÷ 5	M1
15.6 cao	A1

Answer: **15.6**

Question 14

puts the numbers in order: 3, 13, 17, 21, 22, 24, 25, 37, 56, 60	M1
23 cao	A1

Answer: **23**

Question 15

adds all 8 values: 160	M1
20 cao	A1

Answer: **20**

Question 16

puts the numbers in order: 4, 5, 10, 19, 26, 40, 50, 50	M1
22.5 cao	A1

Answer: **22.5**

Question 17

112/360	M1
31% cao	A1

Answer: **31%**

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Question 18

(a) Total of all 6 numbers = 9 x 6 = 54 **M1**

(a) Sum of the 5 known numbers = 5+7+10+12+8 = 42 **M1**

(a) 12 cao **A1**

(a) Answer: **12**

(b) (54 + 20)/7, ft from part a **M1**

(b) awrt 10.6 cao (e.g. 10.57) **A1**

(b) Answer: **awrt 10.6 (10.57 to 2dp)**

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