2.7-3 Averages and Data Handling: Practice Set 3: Test Pack

Calculators not allowed · about 15 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Here are the ages, in years, of 7 cousins at a family party: 9, 12, 9, 15, 9, 11, 12.
What is the mode of these ages?
A) 9 B) 11 C) 12 D) 15

(1)

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2 40 pupils in Year 6 were asked to name their favourite type of book. The results are shown in a pie chart: Adventure takes up half of the pie chart, Mystery takes up a quarter, Fantasy takes up an eighth, and Comic takes up an eighth.

(a) How many pupils chose adventure books? **(2)**

.....

(b) Two of the genres were each chosen by the same number of pupils. How many pupils chose each of these two genres? **(1)**
A) 5 B) 10 C) 15 D) 20

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3 The table shows the number of visitors to a village fete during each hour it was open. Time: 10:00-11:00, 11:00-12:00, 12:00-13:00, 13:00-14:00, 14:00-15:00, 15:00-16:00. Number of visitors: 45, 62, 58, 130, 51, 39.

(a) Find the range of the number of visitors. **(2)**

.....

(b) One of these hourly totals is unusually high compared with the rest. State which hour this is, and suggest one reason why the number of visitors might have been so much higher then. **(2)**

.....

.....

(c) If the unusually high hour were excluded, what would the range of the remaining data be? **(1)**

A) 13 B) 23 C) 62 D) 91

.....

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4 Find the median of this set of numbers: 3, 7, 2, 9, 5, 12.

A) 5 B) 6 C) 7 D) 9

(1)

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5 A charity bake sale recorded how much money was raised each day over 6 days: £24, £31, £18, £45, £27, £35.

(a) Calculate the mean amount raised per day. **(2)**

.....

(b) Find the median amount raised. **(2)**

.....

(c) On the 7th day, an extra £53 was raised. Without recalculating the mean from scratch, state whether the new mean (over all 7 days) will be higher or lower than the mean found in part (a). Give a reason for your answer. **(1)**

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6 Tariq, Freya, Ade and Olamide collected conkers in the park. The numbers they collected were: 9, 15, 6, 18.
Work out the mean number of conkers collected.

(2)

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Mark scheme · 2.7-3 Averages and Data Handling: Practice Set 3: Test Pack

Question 1

9 cao **B1**

Answer: A) 9

Question 2

(a) 40 / 2 (or 1/2 x 40, correct method) **M1**

(a) 20 cao **A1**

(a) Answer: 20

(b) A) 5 cao **B1**

(b) Answer: A) 5

Question 3

(a) 130 - 39 (or largest and smallest values correctly identified) **M1**

(a) 91 cao **A1**

(a) Answer: 91

(b) 13:00-14:00 (or 130) correctly identified **B1**

(b) any sensible reason, e.g. it was lunchtime so more people arrived, or there may have been a show or performance at that time **B1**

(b) Answer: 13:00-14:00; a sensible reason such as it being lunchtime or a main event taking place then

(c) B) 23 cao **B1**

(c) Answer: B) 23

Question 4

6 cao **B1**

Answer: B) 6

Question 5

(a) 24 + 31 + 18 + 45 + 27 + 35 = 180 (or valid attempt to sum all six values) **M1**

(a) £30 cao **A1**

(a) Answer: £30

(b) correctly orders the six values: 18, 24, 27, 31, 35, 45 **M1**

(b) £29 cao **A1**

(b) Answer: £29

(c) higher, with a correct reason, e.g. £53 is more than the original mean of £30, so including it pulls the mean up (ft from part (a)) **B1**

(c) Answer: Higher, because £53 is greater than the original mean of £30, so it increases the average.

Question 6

9 + 15 + 6 + 18 = 48 (or valid attempt to sum all four values) **M1**

12 cao **A1**

Answer: 12

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