2.101 Bar Charts and Pictograms in Depth: Test Pack

GL ASSESSMENT GL-11PLUS-MATHS · Calculators not allowed · about 30 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A bar chart shows the number of books borrowed from the school library in one week. Monday 14, Tuesday 22, Wednesday 18, Thursday 9, Friday 16. Which day had the highest number borrowed?

- ☐ A) Monday
- ☐ B) Tuesday
- ☐ C) Wednesday
- ☐ D) Thursday
- ☐ E) Friday

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2 A pictogram shows ice creams sold. Each symbol stands for 5 ice creams. The number of symbols is: Monday: 3.5 symbols, Tuesday: 7 symbols, Wednesday: 6 symbols. How many ice creams are shown altogether?

- ☐ A) 16.5
- ☐ B) 85
- ☐ C) 82.5
- ☐ D) 80
- ☐ E) 81.5

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3 A pictogram shows visitors counted. Each symbol stands for 8 visitors. The number of symbols is: Monday: 3 symbols, Tuesday: 7 symbols, Wednesday: 2 symbols, Thursday: 7 symbols, Friday: 4 symbols. How many more visitors are shown for the highest day than the lowest day?

- ☐ A) 16
- ☐ B) 5
- ☐ C) 39
- ☐ D) 40
- ☐ E) 56

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4 A pictogram shows ice creams sold. Each symbol stands for 10 ice creams. The number of symbols is: Monday: 4.5 symbols, Tuesday: 1.5 symbols, Wednesday: 3.5 symbols. How many more ice creams are shown for the highest day than the lowest day?

- ☐ A) 3
- ☐ B) 45
- ☐ C) 15
- ☐ D) 31
- ☐ E) 30

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5 A pictogram shows cakes baked. Each symbol stands for 2 cakes. The number of symbols is: Monday: 7 symbols, Tuesday: 3.5 symbols, Wednesday: 2.5 symbols. How many cakes are shown altogether?

- ☐ A) 27
- ☐ B) 13
- ☐ C) 28
- ☐ D) 24
- ☐ E) 26

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6 A pictogram key states 1 star = 10 pupils. The pictogram shows 3 stars for Year 3. How many pupils does this represent?

(1)

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7 A pictogram shows ice creams sold. Each symbol stands for 2 ice creams. The number of symbols is: Monday: 5 symbols, Tuesday: 5.5 symbols, Wednesday: 1.5 symbols. How many more ice creams are shown for the highest day than the lowest day?

- ☐ A) 14
- ☐ B) 4
- ☐ C) 11
- ☐ D) 3
- ☐ E) 8

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8 A bar chart shows cinema attendances over three days: Day 1 = 120, Day 2 = 90, Day 3 = 150. Which day had attendance closest to the mean attendance? (Mean = 120.)

- [ ] A) Day 1
- [ ] B) Day 2
- [ ] C) Day 3
- [ ] D) Day 1 and Day 2 equally
- [ ] E) Day 2 and Day 3 equally

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9 A pictogram shows the number of story books on three shelves. The key says 1 book icon = 5 books. Shelf A has 3 book icons. Shelf B has 2 book icons. Shelf C has 4 book icons. How many books are on Shelf B?

- [ ] A) 7
- [ ] B) 8
- [ ] C) 10
- [ ] D) 12
- [ ] E) 15

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10 A pictogram shows cakes baked. Each symbol stands for 6 cakes. The number of symbols is: Monday: 7 symbols, Tuesday: 3.5 symbols, Wednesday: 2 symbols, Thursday: 4 symbols, Friday: 3.5 symbols. How many more cakes are shown for the highest day than the lowest day?

- [ ] A) 31
- [ ] B) 42
- [ ] C) 5
- [ ] D) 54
- [ ] E) 30

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11 A pictogram shows cakes baked. Each symbol stands for 4 cakes. The number of symbols is: Monday: 6.5 symbols, Tuesday: 5.5 symbols, Wednesday: 4 symbols, Thursday: 5.5 symbols. How many cakes are shown altogether?

- [ ] A) 21.5
- [ ] B) 107.5
- [ ] C) 90
- [ ] D) 80
- [ ] E) 86

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12 A pictogram shows ice creams sold. Each symbol stands for 2 ice creams. The number of symbols is: Monday: 2 symbols, Tuesday: 6.5 symbols, Wednesday: 1 symbols, Thursday: 3 symbols, Friday: 6.5 symbols. How many more ice creams are shown for the highest day than the lowest day?

- [ ] A) 10
- [ ] B) 5.5
- [ ] C) 11
- [ ] D) 2
- [ ] E) 13

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13 A pictogram shows ice creams sold. Each symbol stands for 8 ice creams. The number of symbols is: Monday: 3.5 symbols, Tuesday: 5.5 symbols, Wednesday: 5 symbols, Thursday: 1.5 symbols, Friday: 3.5 symbols. How many ice creams are shown altogether?

- [ ] A) 168
- [ ] B) 171
- [ ] C) 136
- [ ] D) 19
- [ ] E) 152

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14 A pictogram shows ice creams sold. Each symbol stands for 10 ice creams. The number of symbols is: Monday: 4.5 symbols, Tuesday: 3 symbols, Wednesday: 4 symbols, Thursday: 1 symbols, Friday: 7 symbols. How many ice creams are shown altogether?

- [ ] A) 194
- [ ] B) 190
- [ ] C) 196
- [ ] D) 195
- [ ] E) 19.5

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15 A pictogram shows visitors counted. Each symbol stands for 10 visitors. The number of symbols is: Monday: 3 symbols, Tuesday: 5 symbols, Wednesday: 6.5 symbols. How many more visitors are shown for the highest day than the lowest day?

- [ ] A) 30
- [ ] B) 35
- [ ] C) 65
- [ ] D) 95
- [ ] E) 3.5

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16 A pictogram shows books borrowed. Each symbol stands for 20 books. The number of symbols is: Monday: 4 symbols, Tuesday: 5.5 symbols, Wednesday: 3.5 symbols. How many books are shown altogether?

- ☐ A) 261
- ☐ B) 240
- ☐ C) 260
- ☐ D) 273
- ☐ E) 13

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17 A pictogram shows books borrowed. Each symbol stands for 4 books. The number of symbols is: Monday: 4.5 symbols, Tuesday: 3.5 symbols, Wednesday: 5.5 symbols, Thursday: 4.5 symbols, Friday: 3 symbols. How many more books are shown for the highest day than the lowest day?

- ☐ A) 2.5
- ☐ B) 8
- ☐ C) 9
- ☐ D) 10
- ☐ E) 22

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18 A pictogram shows visitors counted. Each symbol stands for 4 visitors. The number of symbols is: Monday: 6.5 symbols, Tuesday: 3.5 symbols, Wednesday: 3 symbols, Thursday: 4.5 symbols. How many more visitors are shown for the highest day than the lowest day?

- ☐ A) 26
- ☐ B) 13
- ☐ C) 15
- ☐ D) 3.5
- ☐ E) 14

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19 A charity sold small bags of sweets. In the pictogram 1 sweet symbol = 4 bags. Monday shows 7 symbols, Tuesday 5.5 symbols (five full and one half), Wednesday 9 symbols. Bags were packed into boxes that hold 6 bags each. How many full boxes could they fill from the total sold over the three days?

(3)

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20 A pictogram shows tickets sold for four performances. Key: 1 ticket symbol = 20 tickets. A 3 symbols, B 4.5 symbols, C 5 symbols, D 2 symbols.

(a) Calculate the total number of tickets sold. **(2)**

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(b) What fraction of the total were tickets for performance C? Give your answer in simplest form. **(2)**

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21 A bar chart shows the number of apples collected in 4 baskets. The numbers are 14, 18, 10 and x. The mean number of apples per basket is 15. Find x.

(2)

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22 In a pictogram each apple symbol represents 6 meals sold at the school cafe. Monday has 3 full apple symbols. Tuesday has 2 and a half apple symbols (two full and one half). Wednesday has 4 full apple symbols. How many meals were sold on Tuesday?

(2)

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23 A survey asked 60 pupils their favourite colour. The bar chart shows Blue 28, Red 14, Green 8, Yellow 10. What fraction of the pupils chose Blue? Give your answer in simplest form.

(2)

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Mark scheme · 2.101 Bar Charts and Pictograms in Depth: Test Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

correct option B (Tuesday = 22) cao **B1**

Answer:B) Tuesday (22 books). (Correct option B.)

Working check: Tuesday has 22 which is larger than 14, 18, 9 and 16 so it is the highest.

Question 2

correct option C (82.5) cao **B1**

Answer: C) 82.5

Question 3

correct option D (40) cao **B1**

Answer: D) 40

Question 4

correct option E (30) cao **B1**

Answer: E) 30

Question 5

correct option E (26) cao **B1**

Answer: E) 26

Question 6

30 cao **B1**

Answer:30

Working check: 3 x 10 = 30 pupils.

Question 7

correct option E (8) cao **B1**

Answer: E) 8

Question 8

identifying difference from mean for each day or recognising Day 1 = 120 equals mean **M1**

Day 1 cao **A1**

Answer:A) Day 1

Working check: Mean given as 120. Day 1 = 120 so difference 0, others differ more.

Question 9

correct option C (10 books) cao **B1**

Answer:C) 10 books.

Working check: Shelf B shows 2 icons; 2 x 5 = 10. Distractors: A/B are place-value or subtraction errors, D/E are misreading other shelves.

Question 10

correct option E (30) cao **B1**

Answer: E) 30

Question 11

correct option E (86) cao **B1**

Answer: E) 86

Question 12

correct option C (11) cao **B1**

Answer: C) 11

Question 13

correct option E (152) cao **B1**

Answer: E) 152

Question 14

correct option D (195) cao **B1**

Answer: D) 195

Question 15

correct option B (35) cao **B1**

Answer: B) 35

Question 16

correct option C (260) cao **B1**

Answer: C) 260

Question 17

correct option D (10) cao **B1**

Answer: D) 10

Question 18

correct option E (14) cao **B1**

Answer: E) 14

Question 19

conversion to bags: 7 x 4 = 28, 5.5 x 4 = 22, 9 x 4 = 36 or equivalent **M1**

addition to get total 28 + 22 + 36 = 86 seen **M1**

14 cao (86/6 = 14 r 2 so 14 full boxes) **A1**

Answer:14 full boxes

Working check: Monday 7 x 4 = 28, Tuesday 5.5 x 4 = 22, Wednesday 9 x 4 = 36. Total 28 + 22 + 36 = 86. 86 ÷ 6 = 14 remainder 2 so 14 full boxes.

Question 20

(a) convert each symbol to tickets: 3 x 20, 4.5 x 20, 5 x 20, 2 x 20 seen **M1**

(a) 290 cao **A1**

(a) Answer: 290

(b) fraction 100/290 or equivalent seen **M1**

(b) 10/29 cao **A1**

(b) Answer: 10/29

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Question 21

use total = mean x number of baskets: 15 x 4 = 60, and subtract known values	**M1**
18 cao	**A1**

Answer:18

Working check: Total needed = 15 x 4 = 60. Known sum = 14 + 18 + 10 = 42. x = 60 - 42 = 18.

Question 22

correct method 2.5 x 6 or equivalent seen	**M1**
15 cao	**A1**

Answer:15

Working check: 2.5 x 6 = (2 x 6) + (0.5 x 6) = 12 + 3 = 15.

Question 23

fraction 28/60 or equivalent seen	**M1**
7/15 cao	**A1**

Answer:7/15

Working check: 28/60 divide top and bottom by 4 gives 7/15.

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