6.3 Bar Charts, Pictograms and Line Graphs: 2-hour Pack

Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A line graph shows the temperature in a greenhouse: 9:00 13°C, 11:00 14°C, 13:00 18°C, 15:00 19°C, 17:00 19°C.
Work out the change in temperature between 9:00 and 13:00.

(2)

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2 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 1 symbols; Tuesday 3.5 symbols; Wednesday 4.5 symbols; Thursday 6 symbols.
How many more bottles were sold on Thursday than on Tuesday?

(2)

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3 A bar chart shows the number of pupils in a class who own each type of pet: dogs 18, cats 28, fish 25, rabbits 16, hamsters 8.
Work out the total number of pets owned.

(2)

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4 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 5 symbols; Tuesday 5 symbols; Wednesday 4 symbols; Thursday 1.5 symbols.
How many more bottles were sold on Tuesday than on Thursday?

(2)

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5 A bar chart shows the number of pupils in a class who own each type of pet: dogs 22, cats 8, fish 3, rabbits 8, hamsters 17.
How many more pupils own hamsters than fish?

(2)

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6 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 1 symbols; Tuesday 2 symbols; Wednesday 4.5 symbols; Thursday 2.5 symbols.
How many more bottles were sold on Thursday than on Tuesday?

(2)

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7 A bar chart shows the number of pupils in a class who own each type of pet: dogs 22, cats 26, fish 19, rabbits 4, hamsters 26.
Work out the total number of pets owned.

(2)

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8 A line graph shows the temperature in a greenhouse: 7:00 12°C, 9:00 16°C, 11:00 21°C, 13:00 24°C, 15:00 23°C.
Estimate the temperature at 10:00, halfway between the readings at 9:00 and 11:00.

(2)

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9 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 6.5 symbols; Tuesday 6.5 symbols; Wednesday 1 symbols; Thursday 1.5 symbols.
How many bottles were sold on Monday?

(1)

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10 A bar chart shows the number of pupils in a class who own each type of pet: dogs 6, cats 8, fish 19, rabbits 8, hamsters 13.
Work out the mean number of pupils per pet type.

(3)

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11 A line graph shows the temperature in a greenhouse: 6:00 5°C, 8:00 9°C, 10:00 8°C, 12:00 11°C, 14:00 15°C.
Estimate the temperature at 9:00, halfway between the readings at 8:00 and 10:00.

(2)

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12 A bar chart shows the number of pupils in a class who own each type of pet: dogs 28, cats 20, fish 19, rabbits 30, hamsters 27.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(3)

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13 A pictogram uses one symbol to represent 10 bottles of water sold. The pictogram shows: Monday 4 symbols; Tuesday 1.5 symbols; Wednesday 3.5 symbols; Thursday 3.5 symbols.
How many bottles were sold on Monday?

(1)

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14 A bar chart shows the number of pupils in a class who own each type of pet: dogs 13, cats 4, fish 19, rabbits 7, hamsters 9.
Work out the mean number of pupils per pet type.

(3)

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15 A bar chart shows the number of pupils in a class who own each type of pet: dogs 18, cats 20, fish 22, rabbits 6, hamsters 22.
Work out the total number of pets owned.

(2)

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16 A bar chart shows the number of pupils in a class who own each type of pet: dogs 11, cats 18, fish 3, rabbits 8, hamsters 6.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(3)

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17 A line graph shows the temperature in a greenhouse: 6:00 12°C, 8:00 15°C, 10:00 15°C, 12:00 17°C, 14:00 20°C.
Estimate the temperature at 9:00, halfway between the readings at 8:00 and 10:00.

(2)

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18 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 3.5 symbols; Tuesday 2 symbols; Wednesday 4 symbols; Thursday 3.5 symbols.
How many bottles were sold on Monday?

(1)

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19 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 6.5 symbols; Tuesday 3 symbols; Wednesday 1.5 symbols; Thursday 5.5 symbols.
How many bottles were sold on Monday?

(1)

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20 A pictogram uses one symbol to represent 10 bottles of water sold. The pictogram shows: Monday 1.5 symbols; Tuesday 5 symbols; Wednesday 6.5 symbols; Thursday 3 symbols.
Work out the total number of bottles sold on the four days.

(2)

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21 A bar chart shows the number of pupils in a class who own each type of pet: dogs 30, cats 19, fish 24, rabbits 13, hamsters 22.
Work out the total number of pets owned.

(2)

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22 A bar chart shows the number of pupils in a class who own each type of pet: dogs 29, cats 10, fish 15, rabbits 27, hamsters 27.
Work out the mean number of pupils per pet type.

(3)

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23 A line graph shows the temperature in a greenhouse: 6:00 16°C, 8:00 13°C, 10:00 9°C, 12:00 6°C, 14:00 4°C.
Estimate the temperature at 11:00, halfway between the readings at 10:00 and 12:00.

(2)

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24 A line graph shows the temperature in a greenhouse: 7:00 20°C, 9:00 24°C, 11:00 27°C, 13:00 23°C, 15:00 29°C.
Work out the change in temperature between 7:00 and 11:00.

(2)

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25 A pictogram uses one symbol to represent 10 bottles of water sold. The pictogram shows: Monday 6.5 symbols; Tuesday 5.5 symbols; Wednesday 4.5 symbols; Thursday 3 symbols.
How many bottles were sold on Monday?

(1)

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26 A line graph shows the temperature in a greenhouse: 6:00 16°C, 8:00 17°C, 10:00 16°C, 12:00 22°C, 14:00 27°C.
Estimate the temperature at 7:00, halfway between the readings at 6:00 and 8:00.

(2)

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27 A bar chart shows the number of pupils in a class who own each type of pet: dogs 25, cats 6, fish 4, rabbits 4, hamsters 3.
How many more pupils own cats than fish?

(2)

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28 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 5.5 symbols; Tuesday 4.5 symbols; Wednesday 1 symbols; Thursday 5 symbols.
How many more bottles were sold on Thursday than on Tuesday?

(2)

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29 A line graph shows sales of ice creams over 5 days: Day 1 40, Day 2 55, Day 3 50, Day 4 60, Day 5 70. Between which two consecutive days was the biggest increase in sales and what was the increase?

(2)

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30 A bar chart shows the number of pupils in a class who own each type of pet: dogs 12, cats 6, fish 8, rabbits 20, hamsters 18.
Work out the mean number of pupils per pet type.

(3)

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31 A bar chart shows the number of pupils in a class who own each type of pet: dogs 27, cats 9, fish 14, rabbits 25, hamsters 21.
Work out the total number of pets owned.

(2)

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32 A pictogram uses one symbol to represent 20 bottles of water sold. The pictogram shows: Monday 4 symbols; Tuesday 6 symbols; Wednesday 6.5 symbols; Thursday 2.5 symbols.
How many bottles were sold on Monday?

(1)

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33 A line graph shows the temperature in a greenhouse: 6:00 25°C, 8:00 26°C, 10:00 24°C, 12:00 24°C, 14:00 30°C.
Estimate the temperature at 11:00, halfway between the readings at 10:00 and 12:00.

(2)

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34 A line graph shows the temperature in a greenhouse: 8:00 21°C, 10:00 17°C, 12:00 19°C, 14:00 23°C, 16:00 28°C.
At what time was the temperature highest, and what was the highest temperature?

(2)

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35 A line graph shows the temperature in a greenhouse: 7:00 10°C, 9:00 9°C, 11:00 7°C, 13:00 3°C, 15:00 8°C.
Estimate the temperature at 12:00, halfway between the readings at 11:00 and 13:00.

(2)

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36 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 3.5 symbols; Tuesday 5 symbols; Wednesday 1.5 symbols; Thursday 4.5 symbols.
How many more bottles were sold on Tuesday than on Thursday?

(2)

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37 A line graph shows the temperature in a greenhouse: 8:00 20°C, 10:00 16°C, 12:00 17°C, 14:00 16°C, 16:00 12°C.
At what time was the temperature highest, and what was the highest temperature?

(2)

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38 A line graph shows the temperature in a greenhouse: 8:00 23°C, 10:00 24°C, 12:00 21°C, 14:00 27°C, 16:00 25°C.
Estimate the temperature at 13:00, halfway between the readings at 12:00 and 14:00.

(2)

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39 A pictogram uses one symbol to represent 4 bottles of water sold. The pictogram shows: Monday 4 symbols; Tuesday 2.5 symbols; Wednesday 4 symbols; Thursday 1 symbols.
How many bottles were sold on Monday?

(1)

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40 A pictogram uses one symbol to represent 2 bottles of water sold. The pictogram shows: Monday 5 symbols; Tuesday 2.5 symbols; Wednesday 6.5 symbols; Thursday 2 symbols.
Work out the total number of bottles sold on the four days.

(2)

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41 A bar chart shows the number of pupils in a class who own each type of pet: dogs 15, cats 26, fish 13, rabbits 27, hamsters 24.
How many more pupils own dogs than fish?

(2)

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42 A bar chart shows the number of pupils in a class who own each type of pet: dogs 18, cats 16, fish 25, rabbits 14, hamsters 11.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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43 A line graph shows the temperature in a greenhouse: 7:00 15°C, 9:00 17°C, 11:00 17°C, 13:00 14°C, 15:00 16°C.
Estimate the temperature at 12:00, halfway between the readings at 11:00 and 13:00.

(2)

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44 A bar chart shows the number of pupils in a class who own each type of pet: dogs 26, cats 19, fish 9, rabbits 19, hamsters 28.
Work out the total number of pets owned.

(2)

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45 A bar chart shows the number of pupils in a class who own each type of pet: dogs 9, cats 5, fish 25, rabbits 5, hamsters 22.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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46 A bar chart shows the number of pupils in a class who own each type of pet: dogs 12, cats 4, fish 10, rabbits 17, hamsters 16.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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47 A bar chart shows the number of pupils in a class who own each type of pet: dogs 28, cats 21, fish 21, rabbits 28, hamsters 14.
Work out the mean number of pupils per pet type.

(3)

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Mark scheme · 6.3 Bar Charts, Pictograms and Line Graphs: 2-hour Pack

Question 1

18 - 13	M1
+5°C cao	A1

Answer: **5°C rise**

Question 2

subtracts the two values	M1
5 cao	A1

Answer: **5**

Question 3

adds the five values	M1
95 cao	A1

Answer: **95**

Question 4

subtracts the two values	M1
7 cao	A1

Answer: **7**

Question 5

17 - 3 (or the reverse)	M1
14 cao	A1

Answer: **14**

Question 6

subtracts the two values	M1
1 cao	A1

Answer: **1**

Question 7

adds the five values	M1
97 cao	A1

Answer: **97**

Question 8

uses the midpoint of the two readings	M1
18.5°C cao	A1

Answer: **18.5°C**

Question 9

13 cao	B1

Answer: **13**

Question 10

adds the five values	M1
54 ÷ 5	M1
10.8 cao	A1

Answer: **10.8**

Question 11

uses the midpoint of the two readings	M1
8.5°C cao	A1

Answer: **8.5°C**

Question 12

mode = rabbits	B1
30/124	M1
15/62	A1

Answer: **rabbits, 15/62**

Question 13

40 cao	B1

Answer: **40**

Question 14

adds the five values	M1
52 ÷ 5	M1
10.4 cao	A1

Answer: **10.4**

Question 15

adds the five values	M1
88 cao	A1

Answer: **88**

Question 16

mode = cats	B1
18/46	M1
9/23	A1

Answer: **cats, 9/23**

Question 17

uses the midpoint of the two readings	M1
15°C cao	A1

Answer: **15°C**

Question 18

7 cao	B1

Answer: **7**

Question 19

13 cao	B1

Answer: **13**

Question 20

adds the symbols or the values	M1
160 cao	A1

Answer: **160**

Question 21

adds the five values	M1
108 cao	A1

Answer: **108**

Question 22

adds the five values	M1
108 ÷ 5	M1
21.6 cao	A1

Answer: **21.6**

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Question 23

uses the midpoint of the two readings	**M1**
7.5°C cao	**A1**

Answer: **7.5°C**

Question 24

27 - 20	**M1**
+7°C cao	**A1**

Answer: **7°C rise**

Question 25

65 cao	**B1**

Answer: **65**

Question 26

uses the midpoint of the two readings	**M1**
16.5°C cao	**A1**

Answer: **16.5°C**

Question 27

6 - 4 (or the reverse)	**M1**
2 cao	**A1**

Answer: **2**

Question 28

subtracts the two values	**M1**
1 cao	**A1**

Answer: **1**

Question 29

correct identification of the pair with the largest difference (Day 1 to Day 2 is +15 and Day 4 to Day 5 is +10, so Day 1 to Day 2)	**M1**
increase 15 cao	**A1**

Answer: **Biggest increase Day 1 to Day 2; increase 15**

Question 30

adds the five values	**M1**
64 ÷ 5	**M1**
12.8 cao	**A1**

Answer: **12.8**

Question 31

adds the five values	**M1**
96 cao	**A1**

Answer: **96**

Question 32

80 cao	**B1**

Answer: **80**

Question 33

uses the midpoint of the two readings	**M1**
24°C cao	**A1**

Answer: **24°C**

Question 34

16:00	**B1**
28°C	**B1**

Answer: **16:00, 28°C**

Question 35

uses the midpoint of the two readings	**M1**
5°C cao	**A1**

Answer: **5°C**

Question 36

subtracts the two values	**M1**
1 cao	**A1**

Answer: **1**

Question 37

8:00	**B1**
20°C	**B1**

Answer: **8:00, 20°C**

Question 38

uses the midpoint of the two readings	**M1**
24°C cao	**A1**

Answer: **24°C**

Question 39

16 cao	**B1**

Answer: **16**

Question 40

adds the symbols or the values	**M1**
32 cao	**A1**

Answer: **32**

Question 41

15 - 13 (or the reverse)	**M1**
2 cao	**A1**

Answer: **2**

Question 42

mode = fish	**B1**
25/84	**B1**

Answer: **fish, 25/84**

Question 43

uses the midpoint of the two readings	**M1**
15.5°C cao	**A1**

Answer: **15.5°C**

Question 44

adds the five values	**M1**
101 cao	**A1**

Answer: **101**

Question 45

mode = fish	**B1**
25/66	**B1**

Answer: **fish, 25/66**

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Question 46

mode = rabbits	**B1**
17/59	**B1**

Answer: **rabbits, 17/59**

Question 47

adds the five values	**M1**
112 ÷ 5	**M1**
22.4 cao	**A1**

Answer: **22.4**

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