9.4 Statistics: Line Graphs and Timetables: Test Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Between which two consecutive hours did the number of visitors increase by the greatest amount?

(2)

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2 A pictogram uses (*) for 10 items and (half) for 5 items.

Spring: (*) (*) (*) (half)
Summer: (*) (half)
Autumn: (*) (*) (*) (*) (*)

How many whole symbols are needed to show 70 items?

Answer: ___

(2)

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3 A school club survey is shown.

Boys: 10 chose Chess, 22 chose Drama
Girls: 9 chose Chess, 25 chose Drama

How many boys were surveyed?

Answer: ___

(2)

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4 A line graph shows sales of hot chocolates at a cafe each day: Mon 14, Tue 16, Wed 16, Thu 20, Fri 22. What is the median number of hot chocolates sold?

(2)

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5 A line graph shows the water in a tank in litres at different times. The points on the graph are: 8:00 = 5, 9:00 = 6, 10:00 = 9, 11:00 = 14, 12:00 = 18, 13:00 = 19.

Between which two consecutive times was the greatest increase? Write the earlier time.

Answer: ___

(2)

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6 A film starts at 18:19 and takes 1 hour 58 minutes.

What time does it finish? Write your answer as a 24-hour clock time.

Answer: ___

(2)

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7 A train timetable shows local trains leave at 08:15, 09:45, 11:15, 12:45 (journey time 40 minutes) and express trains leave at 08:05, 10:05, 12:05 (journey time 25 minutes). A passenger wants to travel after 09:00 and arrive as early as possible. Which train should they take and why?

(2)

8 A ferry timetable shows crossings start at 06:30 and then every 50 minutes until 10:30 inclusive. List all the departure times.

(2)

9 A line graph records the number of steps a pupil walked each day: Monday 4,200, Tuesday 5,100, Wednesday 4,800, Thursday 5,400, Friday 4,500. Which day is closest to the weekly mean? Show working.

(2)

10 The table shows the litres of rain for four groups.

Year 3: 727
Year 4: 202
Year 5: 479
Year 6: 469

What is the difference between the highest and the lowest litres?

Answer: ___

(2)

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11 A coach leaves at 12:18 and takes 4 hours 0 minutes.

What time does it finish? Write your answer as a 24-hour clock time.

Answer: ___

(2)

---

12 A train leaves at 06:58 and arrives at 08:05.

How many minutes does it take?

Answer: ___ minutes

(2)

---

13 Part of a train timetable is shown.

Fenwick: 09:25
Ashby: 09:56
Eastleigh: 10:24
Grange: 10:48

Freya arrives at Ashby station at 09:44.

How many minutes must they wait for the train?

Answer: ___ minutes

(2)

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14 In a class of 25 pupils, 18 like swimming, 12 like cycling and 9 like both.

How many pupils like neither?

Answer: ___

(2)

---

15 A line graph shows the water in a tank in litres at different times. The points on the graph are: 8:00 = 7, 9:00 = 7, 10:00 = 4, 11:00 = 7, 12:00 = 12, 13:00 = 17.

At what time was the value highest?

Answer: ___

(1)

---

16 A film finishes at 08:39 after taking 1 hour 34 minutes.

What time did it start? Write your answer as a 24-hour clock time.

Answer: ___

(1)

---

17 In a class of 36 pupils, 26 like tea, 11 like coffee and 9 like both.

How many pupils like neither?

Answer: ___

(2)

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18 A pictogram uses (*) for 4 items and (half) for 2 items.

Cats: (*) (*)
Dogs: (*) (*) (*) (*) (*) (half)
Fish: (*) (half)

How many items does Dogs show?

Answer: ___

(2)

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19 A school club survey is shown.

Boys: 20 chose Swimming, 5 chose Tennis
Girls: 14 chose Swimming, 22 chose Tennis

How many pupils were surveyed altogether?

Answer: ___

(3)

---

20 In a class of 26 pupils, 12 like swimming, 9 like cycling and 6 like both.

How many pupils like neither?

Answer: ___

(2)

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21 A school timetable shows lunchtime is from 12:15 to 13:00. How many minutes long is lunchtime?

(2)

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22 A school club survey is shown.

Boys: 17 chose Art, 14 chose Music
Girls: 6 chose Art, 10 chose Music

How many boys were surveyed?

Answer: ___

(2)

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23 A line graph shows the height of water in a tank measured every hour: 8:00 40 cm, 9:00 55 cm, 10:00 70 cm, 11:00 65 cm, 12:00 80 cm. Between which two hours did the water fall?

(2)

---

24 The table shows the litres of rain for four groups.

Spring: 397
Summer: 748
Autumn: 725
Winter: 9

How many litres were there for Winter?

Answer: ___

(1)

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Mark scheme · 9.4 Statistics: Line Graphs and Timetables: Test Pack

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

Question 1

Identifies the correct hour interval 12:00 to 1:00	B1
Gives reason or difference 8 cao	B1

Answer: **12:00 to 1:00 (increase of 8)**

Question 2

divides by the key	M1
7 cao	A1

Answer: **7**

Question 3

adds both boys' values	M1
32 cao	A1

Answer: **32**

Question 4

Orders the data and finds the middle value	M1
16 cao	B1

Answer: **16**

Question 5

compares the changes	M1
10:00 cao	A1

Answer: **10:00**

Question 6

adds hours then minutes	M1
20:17 cao	A1

Answer: **20:17**

Question 7

Identifies next departures after 09:00: 09:45 local and 10:05 express, and works out arrival times: 09:45 + 40 min = 10:25 local, 10:05 + 25 min = 10:30 express	M1
Chooses 09:45 local train because it arrives at 10:25, earlier than the express arriving at 10:30 cao	B1

Answer: **Take the 09:45 local train. It arrives at 10:25, five minutes before the 10:05 express (which takes 25 minutes and arrives at 10:30).**

Question 8

Generates sequence adding 50 minutes repeatedly	M1
Gives list 06:30, 07:20, 08:10, 09:00, 09:50 (the next departure, 10:40, would exceed 10:30)	B1

Answer: **06:30, 07:20, 08:10, 09:00, 09:50**

Question 9

Calculates mean: total 24,000 ÷ 5 = 4,800	M1
Chooses Wednesday 4,800 as closest (difference 0) cao	B1

Answer: **Wednesday (4,800)**

Question 10

identifies the highest and lowest	M1
525 cao	A1

Answer: **525**

Question 11

adds hours then minutes	M1
16:18 cao	A1

Answer: **16:18**

Question 12

counts on to the next hour or minutes calculation	M1
67 minutes cao	A1

Answer: **67 minutes**

Question 13

finds the wait between arriving and the departure time (counting on or subtracting)	M1
12 minutes cao	A1

Answer: **12 minutes**

Question 14

18 + 12 - 9 = 21 seen	M1
4 cao	A1

Answer: **4**

Question 15

13:00 cao	B1

Answer: **13:00**

Question 16

07:05 cao	B1

Answer: **07:05**

Question 17

26 + 11 - 9 = 28 seen	M1
8 cao	A1

Answer: **8**

Question 18

uses the key	M1
22 cao	A1

Answer: **22**

Question 19

adds the boys	M1
adds all four	M1
61 cao	A1

Answer: **61**

Question 20

12 + 9 - 6 = 15 seen	M1
11 cao	A1

Answer: **11**

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Question 21

Subtracts times 13:00 - 12:15 or 60 - 15	**M1**
45 cao	**B1**

Answer: **45 minutes**

Question 22

adds both boys' values	**M1**
31 cao	**A1**

Answer: **31**

Question 23

Identifies 10:00 to 11:00 as the interval where height fell	**B1**
States 10:00 to 11:00 cao	**B1**

Answer: **10:00 to 11:00**

Question 24

9 cao	**B1**

Answer: **9**

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