9.3 Statistics: Line Graphs and Tables: Test Pack

Calculators not allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 The table shows how many books a class borrowed from the school library each day last week.

Day: Monday Tuesday Wednesday Thursday Friday

Books: 6 9 7 8 10

Write down the busiest day and the quietest day.

(2)

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2 A line graph shows the height of a plant in cm at different times. The points on the graph are: 8:00 = 20, 9:00 = 17, 10:00 = 23, 11:00 = 26, 12:00 = 32, 13:00 = 37.

By how much did it change between 8:00 and 11:00? Write a positive number.

Answer: ___ cm

(2)

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3 A table shows the number of green, red and blue balloons sold at a fair: Green 18, Red 24, Blue 30.

Which colour makes up exactly one quarter of the total balloons sold?

(2)

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4 A line graph shows the weight of a hamster measured weekly: 80 g, 85 g, 90 g, 95 g.

Predict the weight in week 6 if the pattern continues at the same rate. Explain your answer.

(2)

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5 The table shows the number of eggs collected from three coops in one morning: Coop A 12, Coop B 9, Coop C 15.

A teacher records this information on a line graph across three points labelled A, B and C. Is a line graph the best way to show this data? Tick yes or no and explain your answer.

- [ ] Yes
- [ ] No

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6 A line graph records the number of biscuits sold each day at a bake sale: Monday 20, Tuesday 30, Wednesday 25, Thursday 35, Friday 40.

Which two consecutive days had the smallest change in sales? Show how you decided.

(2)

---

7 A line graph shows the number of children arriving at a club each hour from 3 pm to 7 pm: 3 pm 2, 4 pm 6, 5 pm 9, 6 pm 7, 7 pm 3.

Calculate the range of the data and explain how you found it.

(3)

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8 A line graph shows the temperature in degrees Celsius in a playground from 9 am to 3 pm every hour. At 11 am the temperature is 12 degrees and at 2 pm it is 16 degrees.

What is the increase in temperature from 11 am to 2 pm?

(2)

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9 The table shows the points scored for four groups.

Spring: 112
Summer: 386
Autumn: 512
Winter: 654

How many points were there for Spring and Autumn together?

Answer: ___

(2)

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10 The table shows the number of cups of juice sold at a stall on Saturday.

Time period: 9-10am 10-11am 11-12pm 12-1pm

Cups sold: 5 12 15 8

How many cups were sold in total during the three busiest time periods?

(2)

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11 A line graph shows the temperature in degrees Celsius at different times. The points on the graph are: 8:00 = 13, 9:00 = 16, 10:00 = 18, 11:00 = 20, 12:00 = 19, 13:00 = 18.

What was the value at 9:00?

Answer: ___ degrees

(1)

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12 The table shows the number of pupils for four groups.

Year 3: 835
Year 4: 321
Year 5: 507
Year 6: 431

What is the total for all four groups?

Answer: ___

(1)

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13 The table shows the number of pencils sold in a shop each month.

Month: January February March April

Pencils: 24 30 27 36

(a) Which month had a 50% increase compared with January? **(1)**

(b) By how many pencils did sales change from March to April? **(2)**

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14 The table shows the points scored for four groups.

Red: 735
Blue: 198
Green: 482
Yellow: 530

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

Answer: ___

(2)

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15 A line graph shows the number of cars passing a bridge each hour. At 2 pm the graph reads 42 and at 5 pm it reads 30.

How many fewer cars were passing at 5 pm than at 2 pm?

(2)

---

16 A line graph shows the height of a plant in cm at different times. The points on the graph are: 8:00 = 5, 9:00 = 2, 10:00 = 1, 11:00 = 4, 12:00 = 6, 13:00 = 12.

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

Answer: ___

(2)

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

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

How many items are shown altogether?

Answer: ___

(3)

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18 The table shows how many apples were picked by three children in one hour.

Child: Mia Ben Aisha

Apples: 14 9 17

What fraction of the total apples did Ben pick? Give your answer in simplest form.

(2)

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19 A line graph shows the height in cm of a seedling measured once a week for 5 weeks. The heights were: 2, 4, 7, 9, 12.

Describe the overall trend of the seedling's growth.

(2)

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20 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 = 6, 11:00 = 9, 12:00 = 9, 13:00 = 8.

By how much did it change between 8:00 and 11:00? Write a positive number.

Answer: ___ litres

(2)

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21 The line graph shows the number of visitors at a gallery every day from Monday to Sunday.

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

45 52 50 48 70 85 60

(a) On which day was the largest increase in visitors compared with the previous day? **(1)**

(b) Explain your answer. **(2)**

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22 A school club survey is shown.

Boys: 6 chose Art, 12 chose Music
Girls: 14 chose Art, 28 chose Music

How many pupils were surveyed altogether?

Answer: ___

(3)

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Mark scheme · 9.3 Statistics: Line Graphs and Tables: Test Pack

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

Question 1

Busiest day: Friday cao	B1
Quietest day: Monday cao	B1

Answer: **Busiest day: Friday; Quietest day: Monday**

Question 2

finds the difference between the two values	M1
6 cm cao	A1

Answer: **6 cm**

Question 3

Finds total 18 + 24 + 30 = 72 or shows fraction	M1
Green cao (18 is 1/4 of 72) or equivalent statement	B1

Answer: **Green**

Question 4

Identifies pattern: +5 g each week or shows working to continue sequence to week 6	M1
Answer 105 g cao with explanation	B1

Answer: **105 g**

Question 5

Answers No with a correct reason that line graphs show change over time and these are separate categories	M1
Gives example reason e.g. should use a bar chart or pictogram instead cao	B1

Answer: **No; a line graph is not best because the data are separate categories, not values changing over time. A bar chart is better.**

Question 6

Computes consecutive differences: Tue-Mon 10, Wed-Tue 5, Thu-Wed 10, Fri-Thu 5	M1
Gives either Wed-Tue or Fri-Thu with explanation (smallest change 5) cao	B1

Answer: **Wednesday and Tuesday (change 5) or Thursday and Friday (change 5). Smallest change is 5 biscuits.**

Question 7

Identifies maximum 9 and minimum 2 or equivalent	M1
Shows subtraction 9 - 2 = 7	M1
Range 7 cao with explanation	B1

Answer: **7**

Question 8

Difference seen 16 - 12 = 4	B1
Answer 4 cao	B1

Answer: **4**

Question 9

addition seen	M1
624 cao	A1

Answer: **624**

Question 10

Identifies three largest numbers 12, 15, 8 and adds or equivalent	M1
35 cao	B1

Answer: **35**

Question 11

16 degrees cao	B1

Answer: **16 degrees**

Question 12

2,094 cao	B1

Answer: **2,094**

Question 13

(a) April cao (24 + 50% of 24 = 36)	B1
(a) Answer: **April**	
(b) Shows 36 - 27 = 9 or equivalent	M1
(b) 9 cao	B1
(b) Answer: **9**	

Question 14

identifies the highest and lowest	M1
537 cao	A1

Answer: **537**

Question 15

Difference 42 - 30 seen	B1
12 cao	B1

Answer: **12**

Question 16

compares the changes	M1
12:00 cao	A1

Answer: **12:00**

Question 17

uses the key	M1
adds the three values	M1
135 cao	A1

Answer: **135**

Question 18

Finds total 14 + 9 + 17 = 40 or shows fraction 9/40	M1
9/40 cao	B1

Answer: **9/40**

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Question 19

States that height increases over time **B1**

Gives supporting detail e.g. increases more between some weeks (2 to 4 to 7 to 9 to 12) or growth is steady/increasing **B1**

Answer: **The seedling gets taller each week, increasing from 2 cm to 12 cm overall (growth generally increases and is faster in later weeks).**

Question 20

finds the difference between the two values **M1**

2 litres cao **A1**

Answer: **2 litres**

Question 21

(a) Friday cao **B1**

(a) Answer: **Friday**

(b) Shows correct comparison of increases e.g. computes differences between consecutive days **M1**

(b) Explains that Friday increased by 22 compared with Thursday, which is the largest increase cao **B1**

(b) Answer: **Friday increased by 22 from 48 to 70, which is the largest increase compared with the previous day.**

Question 22

adds the boys **M1**

adds all four **M1**

60 cao **A1**

Answer: **60**

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