



KS2.M-Y4S1 Statistics: Line Graphs and Tables

Calculators not allowed · about 45 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)

- 2** 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)

- 3** 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)

- 4** A line graph shows how many pupils arrive at a school gate each 10 minutes between 8:20 and 9:00.

At 8:30 there are 18 pupils and at 8:50 there are 30 pupils.

Assuming the number of pupils increased steadily between these times, how many pupils arrived between 8:30 and 8:40?

(2)

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- 5** 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?
b) By how many pencils did sales change from March to April?

(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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- 6** 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)

7 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)

8 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)

9 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?

b) Explain your answer.

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

(b) Explain your answer. (2)

- 10** A table shows how many minutes children read each day for four days: 20, 25, 30, 15.

What is the mean reading time per day? (Mean = total divided by number of days)

(2)

- 11** The line graph records how many goals a youth team scored each month: January 3, February 2, March 4, April 6.

By how many goals did the total number of goals for March and April exceed the total for January and February?

(2)

- 12** 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)

- 13** 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)

- 14** 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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- 15** 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)

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- 16** A table shows the number of birds seen in a park over three mornings: 7, 11, 9.

Draw a conclusion about whether the number of birds is increasing, decreasing or fluctuating. Give a reason using the table numbers.

(2)

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- 17** 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)

18 The table below shows the number of sweets in five jars: 12, 15, 12, 18, 15.

- a) What is the mode of this set of numbers?
- b) Explain why this measure of centre is useful for these data.

(a) What is the mode of this set of numbers? **(1)**

(b) Explain why this measure of centre is useful for these data. **(2)**

Mark scheme • KS2.M-Y4S1 Statistics: Line Graphs and Tables

Question 1

- **B1** Busiest day: Friday cao
- **B1** Quietest day: Monday cao
- Answer: **Busiest day: Friday; Quietest day: Monday**

Question 2

- **B1** Difference seen $16 - 12 = 4$
- **B1** Answer 4 cao
- Answer: **4**

Question 3

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

Question 4

- **M1** Shows steady increase: total increase $30 - 18 = 12$ over 20 minutes so 6 per 10 minutes
- **B1** 6 cao
- Answer: **6**

Question 5

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

Question 6

- **B1** Difference $42 - 30$ seen
- **B1** 12 cao
- Answer: **12**

Question 7

- **M1** Finds total $14 + 9 + 17 = 40$ or shows fraction $9/40$
- **B1** $9/40$ cao
- Answer: **9/40**

Question 8

- **B1** 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
- 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 9

- (a) **B1** Friday cao
- (a) Answer: **Friday**
- (b) **M1** Shows correct comparison of increases e.g. computes differences between consecutive days
- (b) **B1** Explains that Friday increased by 22 compared with Thursday, which is the largest increase cao
- (b) Answer: **Friday increased by 22 from 48 to 70, which is the largest increase compared with the previous day.**

Question 10

- **M1** Adds times $20 + 25 + 30 + 15 = 90$ or equivalent
- **B1** Mean 22.5 cao
- **Answer: 22.5**

Question 11

- **M1** Computes March + April = $4 + 6 = 10$ and Jan + Feb = $3 + 2 = 5$
- **B1** Difference 5 cao
- **Answer: 5**

Question 12

- **M1** Finds total $18 + 24 + 30 = 72$ or shows fraction
- **B1** Green cao (18 is $\frac{1}{4}$ of 72) or equivalent statement
- **Answer: Green**

Question 13

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

Question 14

- **M1** Answers No with a correct reason that line graphs show change over time and these are separate categories
- **B1** Gives example reason e.g. should use a bar chart or pictogram instead cao
- **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 15

- **M1** Computes consecutive differences: Tue-Mon 10, Wed-Tue 5, Thu-Wed 10, Fri-Thu 5
- **B1** Gives either Wed-Tue or Fri-Thu with explanation (smallest change 5) cao
- **Answer: Wednesday and Tuesday (change 5) or Thursday and Friday (change 5). Smallest change is 5 biscuits.**

Question 16

- **M1** Identifies pattern fluctuating with numbers 7, 11, 9 or similar
- **B1** Gives reason e.g. increases then decreases so fluctuating cao
- **Answer: Fluctuating; it goes up from 7 to 11 then down to 9, so it does not only increase or decrease.**

Question 17

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

Question 18

- (a) **B1** 12 or 15 cao (both occur twice) accept either with explanation
- (a) **Answer: 12 or 15**
- (b) **M1** Explains that mode shows the most common number which helps see typical jar size
- (b) **B1** Gives reason e.g. shows most jars have 12 or 15 sweets so it tells the common amount cao
- (b) **Answer: The mode shows the most common number of sweets. It is useful because most jars have either 12 or 15 sweets, so it tells us the typical jar size.**