Answers - Bar charts and time graphs

Year: Year 4

Answer to Question 1

a. The swimming bar reaches 9: **9 children**.
b. The tallest bar is football (14) and the shortest is tennis (5): **football** and **tennis**.
c. 14 − 5 = **9 more children**.
d. 14 + 9 + 5 + 8 + 12 = **48 children**.

Answer to Question 2

a. The Tuesday bar reaches 25: **25 books**.
b. **Thursday** with **30 books**.
c. 30 − 10 = **20 more books**.
d. 10 + 25 + 15 + 30 = **80 books**.

Answer to Question 3

a. 5 symbols × 6 = **30 ice creams**.
b. 1 whole symbol and 1 half symbol: 6 + 3 = **9 ice creams**.
c. 4 symbols × 6 = 24: **Sunday**.
d. 18 + 30 + 24 + 9 = **81 ice creams**.

Answer to Question 4

a. Apple: 10 (two groups of 5). Banana: 6 (one group of 5 and 1). Orange: 13 (two groups of 5 and 3). Grapes: 2. Frequencies **10, 6, 13, 2**.
b. The biggest frequency is 13: **orange**.
c. 10 + 6 + 13 + 2 = **31 children**.

Answer to Question 5

a. The line is at **15 °C** at 12 pm.
b. The highest point is at **2 pm**, with **18 °C**.
c. 18 − 6 = **12 °C**.
d. 18 − 12 = **6 °C**.

Answer to Question 6

a. The biggest number is 12, so a scale of 2 per square needs 6 squares: a good choice. Scales of 1 (12 squares) or 5 (too few lines) are less sensible, so **2 per square**.
b. Walk: 12 ÷ 2 = **6 squares**; car: 8 ÷ 2 = **4 squares**; bus: 6 ÷ 2 = **3 squares**; cycle: 4 ÷ 2 = **2 squares**.
c. 12 + 8 + 6 + 4 = **30**.
d. Give the chart a **title**, label the horizontal axis (way to school) and the vertical axis (number of children), write the scale numbers 0, 2, 4, … 12 and leave equal gaps between bars.

Answer to Question 7

a. January (60 mm) was the wettest and May (20 mm) the driest.
b. 60 − 20 = **40 mm**.
c. 60 + 40 + 50 = **150 mm**.
d. Total 60 + 40 + 50 + 30 + 20 = 200 mm. 200 ÷ 5 = **40 mm**.

Answer to Question 8

a. **30 passengers**.
b. **Friday** with 50 passengers. 50 − 35 = **15 more** than Monday.
c. 35 + 40 + 30 + 45 + 50 = **200 passengers**.
d. 50 × £2 = **£100**.

Answer to Question 9

a. 5 symbols × 10 = **50 children**.
b. 2 symbols × 10 = **20 children**.
c. Fish has 3 symbols, so **fish**.
d. 40 + 50 + 20 + 30 = **140 children**.

Answer to Question 10

a. **45 cm**.
b. 70 − 25 = **45 cm**.
c. Growth: 15, 20, 25 and 20 cm. The most is between weeks 3 and 4: **25 cm**.
d. The last week it grew 90 − 70 = 20 cm. 90 + 20 = 110 cm, so **yes**, 110 cm in week 6 is a reasonable guess.

Answer to Question 11

a. The most were sold on **Thursday** (95), when it was 22 °C.
b. 95 − 30 = **65 more**.
c. 30 + 50 + 70 + 95 + 85 = **330 ice creams**.
d. When the temperature is higher, more ice creams are sold: the highest temperature (22 °C) had the highest sales (95).

Answer to Question 12

a. **16 children**.
b. 12 − 4 = **8 more**.
c. **Rabbit and bird** (4 each).
d. 16 + 12 + 8 + 4 + 4 = **44 children**. A quarter of 44 is 11, and 16 is more than 11, so **no**, more than a quarter have a dog.

Answer to Question 13

a. **60 litres**.
b. At **12 pm** (100 litres).
c. 100 − 40 = **60 litres**.
d. 100 − 40 = 60 litres needed, 60 ÷ 20 = **3 hours**.

Answer to Question 14

a. The biggest number is 40, so a scale of **5 km per square** (8 squares) or 10 km per square (4 squares) is sensible.
b. **5 bars**. Cara: 40 ÷ 5 = **8 squares**.
c. 40 − 10 = **30 km**.
d. 25 + 15 + 40 + 30 + 10 = **120 km**.

Answer to Question 15

a. Class **4B** read the most: **60 books**.
b. 45 + 35 = **80 books**.
c. 45 + 60 + 35 + 50 = **190 books**.
d. 60 ÷ 24 = 2.5, so **2.5 books** per child (more than 2, less than 3).
e. 200 − 190 = **10 books**: they missed the target by 10.

Answer to Question 16

a. 107 − 100 = **7 cm**.
b. Growth: 7, 7, 6 and 6 cm. The most was in the first two years: **7 cm** (age 4 to 5 and age 5 to 6).
c. 126 − 100 = **26 cm**.
d. 130 − 126 = **4 cm**.
e. Between 4 and 5 he grew 7 cm; between 7 and 8 he grew 6 cm. The first is bigger, so the graph is **steeper between ages 4 and 5**.

Answer to Question 17

a. 120 + 200 + 180 + 60 = **560**.
b. 90 + 150 + 160 + 40 = **440**.
c. **Lunchtime**: 200 and 150.
d. 560 + 440 = **1 000**: it exactly **reached** the target.
e. Choose **20 or 50 per square**. Scale 20 means 10 squares for 200, which is clear.

Answer to Question 18

a. **4 matches**.
b. 2 goals (4) + 3 goals (1) + 4 goals (1) = **6 matches**.
c. 0 × 1 + 1 × 3 + 2 × 4 + 3 × 1 + 4 × 1 = 0 + 3 + 8 + 3 + 4 = **18 goals**.
d. 3 matches means a bar **3 squares** tall.
e. 18 goals in 10 matches: 18 ÷ 10 = 1.8, which is less than 2. So **no**, the average is less than 2.

Answer to Question 19

a. **£40**.
b. 60 − 40 = **£20**.
c. Savings each week: 10, 15, 15, 20, 15. The most is in **week 4: £20**.
d. 90 − 75 = **£15** more.
e. She needs £15 more, which is one more week: **week 6**.

Answer to Question 20

a. 60 − (12 + 18 + 15) = 60 − 45 = **15 pupils**.
b. 12 ÷ 3 = **4**; 18 ÷ 3 = **6**; 15 ÷ 3 = **5**; sport 15 ÷ 3 = **5** squares.
c. 60 + 9 = **69 pupils**.
d. Art: 18 out of 69. Divide the top and the bottom by 3: **6/23**.