Answers - Line graphs and timetables

Year: Year 5

Answer to Question 1

a. **11°C**.
b. **14°C at 12 noon**.
c. **9°C**.
d. At **8 am**.

Answer to Question 2

a. 12 − 5 = **7 cm**.
b. Growth: 7, 13, 16 and 19 cm. The most is **19 cm between Week 4 and Week 5**.
c. 60 − 5 = **55 cm**.
d. The biggest value is 60 cm, so the scale must reach 60. Counting in 10s needs only 6 steps, so use **one square for 10 cm**.

Answer to Question 3

a. **08:30**.
b. **08:40**.
c. 07:30 to 08:10 is **40 minutes**.
d. Bus 2 arrives at 08:40 and Bus 3 at 09:10. The last bus that arrives before 09:00 is **Bus 2**, leaving the park at 08:00.

Answer to Question 4

a. 3:45 pm = 3 + 12 = **15:45**.
b. 9:20 pm = 9 + 12 = **21:20**.
c. 18:05 − 12 = 6, so **6:05 pm**.
d. 00:30 is just after midnight: **12:30 am**.
e. 12:15 pm is just after noon, so **12:15**.

Answer to Question 5

a. 09:15 to 11:40 is **2 h 25 min**.
b. 13:50 to 15:05 is **1 h 15 min**.
c. 07:25 to 08:00 is **35 min**.

d. 16:35 to 19:20 is **2 h 45 min**.

Answer to Question 6

a. The biggest value is 19. Count in 2s to 20: **10 squares** (one square is 2°C).
b. The biggest value is 85. Count in 10s to 90: **9 squares** (one square is £10).
c. The biggest value is 300. Count in 50s to 300: **6 squares** (one square is 50 people).
d. The biggest value is 60. Count in 10s to 60: **6 squares** (one square is 10 cm).

Answer to Question 7

a. **15°C at 1 pm**.
b. 15 − 8 = **7°C**.
c. 14 − 10 = **4°C**.
d. Noon is halfway between 11°C at 11 am and 15°C at 1 pm. The halfway value is 13, so about **13°C**. It is an estimate because nobody measured at noon.

Answer to Question 8

a. **£40**.
b. The line is flat: he saved **nothing** that week (the amount stayed at £40).
c. 80 − 40 = **£40** in two weeks.
d. 120 − 80 = **£40** more. He saves £40 in two weeks, so he needs **2 more weeks**.

Answer to Question 9

a. **08:12**.
b. 08:15 to 09:00 is **45 minutes**.
c. The late bus arrives at 09:00, which is after 08:50, so Ali should take the **morning bus**, which arrives at 08:30.
d. 09:00 is **9:00 am**.

Answer to Question 10

a. 09:05 to 11:20 is **2 h 15 min**.
b. A: 135 min; B: 10:05 to 12:20 = 135 min; C: 11:35 to 13:50 = 135 min. All take the **same time, 2 h 15 min**.
c. Train A has already left at 09:05. The first they can catch is **Train B at 10:05**.
d. 10:00 to 10:05 is **5 minutes**.
e. Train A (11:20) and Train B (12:20) arrive before 12:30. **A and B**.

Answer to Question 11

a. **Una** (26 seconds).
b. 30 + 31 + 31 + 32 = **124 seconds**.
c. Ravi: 125. Sue: 125. Tom: 124. Una: 119. **Una** was fastest.
d. Ravi (28, 30, 32, 35), Sue (27, 29, 33, 36) and Una (26, 28, 31, 34) were slower in every length. Tom was 31 seconds in both Length 2 and Length 3, so he did not slow down every time. The answer is **Ravi, Sue and Una**.

Answer to Question 12

a. 13:30 to 15:05 is **1 h 35 min**.
b. 15:40 to 17:55 is **2 h 15 min**.
c. 3:15 pm is 15:15. Space Dogs finishes at 15:05, so she misses it. She can see **Pirate Island at 15:40**.
d. 17:55 to 18:20 is **25 minutes**.
e. Space Dogs 95 min, Pirate Island 135 min, Robot Race 110 min. **Pirate Island** is the longest.

Answer to Question 13

a. **20 km**.
b. Rob **did not move**; he stopped for a rest for half an hour.
c. 40 − 20 = **20 km**.
d. In every half hour he cycled 10 km, except between 10:00 and 10:30 when he did not move at all. So **he is not right**: his speed was not the same all morning.

Answer to Question 14

a. **25 cm**.
b. Growth: 7, 13, 16 and 19 cm. It grew the most in **Week 5** (19 cm).
c. Halfway between 12 and 25 is 18.5, so about **18 or 19 cm**.
d. The graph shows growth of 19 cm in the last week and the growth has been getting bigger each week, so growing about 20 cm to reach 80 cm is **sensible**, but it is only a prediction.

Answer to Question 15

a. **17°C**.
b. Rises: 3, 4, 4, 1. The biggest rise is **4°C**, from 08:00 to 10:00 and from 10:00 to 12:00.

c. 17 − 9 = **8°C**.
d. 09:00 is halfway between 08:00 (8°C) and 10:00 (12°C). Halfway between 8 and 12 is **about 10°C**.
e. 16:00 is **4:00 pm** and the temperature was **13°C**.

Answer to Question 16

a. 08:20 to 09:35 is **1 h 15 min**.
b. 09:35 to 10:05 is **30 minutes**.
c. 10:05 to 14:50 is **4 h 45 min**.
d. Add: 1 h 15 + 30 min + 4 h 45 = **6 h 30 min** (check: 08:20 to 14:50).
e. They arrive at 14:50, which is **50 minutes after 14:00**, so it is not possible.
f. 14:50 is **2:50 pm**.

Answer to Question 17

a. **50°C**.
b. 80 − 62 = **18°C**.
c. 36 − 32 = **4°C**.
d. Falls: 18, 12, 8, 6, 4. The fall is **faster at the start** and slows down.
e. Between 10 min (50°C) and 15 min (42°C), 12 minutes is two fifths of the way, so the temperature is about 50 − 3 = **47°C**. The drink reaches 45°C a little after 12 minutes, after about **13 minutes**.

Answer to Question 18

a. Most: **Saturday (300)**. Fewest: **Wednesday (90)**.
b. Rises: Mon→Tue 30, Thu→Fri 70, Fri→Sat 120. The biggest is **120 between Friday and Saturday**.
c. Falls: Tue→Wed 60 and Sat→Sun 50. The biggest fall is **60, from Tuesday to Wednesday**.
d. 120 + 150 + 90 + 110 + 180 + 300 + 250 = **1,200 visitors**.
e. 1,200 ÷ 7 = 171 remainder 3, so the average is about 171.4 per day, which is **more than 170: yes**, but only just.

Answer to Question 19

a. 05:30 to 07:15 is **1 h 45 min**.
b. 07:15 to 10:50 is **3 h 35 min**.
c. 10:50 to 11:30 is **40 minutes**.
d. 04:45 to 12:20 is 7 h 35 min. Count: 04:45 to 12:00 is 7 h 15 min and 12:00 to 12:20 is 20 min, total **7 h 35 min**.

e. Taxi: 45 minutes (04:45 to 05:30). Bus: 11:30 to 12:20 is 50 minutes. So **no**, the bus is 5 minutes longer.

Answer to Question 20

a. **07:10, 07:35, 08:00, 08:25, 08:50, 09:15**.
b. 08:25 + 25 min = **08:50**.
c. The 08:25 bus has gone. The next is at 08:50. He arrives at 08:35, so he waits **15 minutes**.
d. From 07:10 to 10:05 is 2 h 55 min = 175 min. 175 ÷ 25 = 7, a whole number, so **yes**, the eighth bus leaves at 10:05.