Answers - Length, perimeter, mass and capacity

Year: Year 3

Answer to Question 1

a. 3 × 100 = **300 cm**.
b. 400 + 25 = **425 cm**.
c. 250 cm = 200 cm + 50 cm = **2 m 50 cm**.
d. 50 ÷ 10 = **5 cm**.
e. 3 × 1000 = **3000 m**.

Answer to Question 2

a. The strip starts at 0 and ends at the 9 cm mark, so it is **9 cm** long.
b. Each centimetre is 10 millimetres, so 9 cm = 9 × 10 = **90 mm**.
c. 5 cm longer means add: 9 + 5 = **14 cm**.
d. Find the difference between 15 cm and 9 cm: 15 − 9 = **6 cm** shorter.

Answer to Question 3

a. 8 + 3 + 8 + 3 = **22 cm**.
b. 12 + 5 + 12 + 5 = **34 cm**.
c. 20 + 9 + 20 + 9 = **58 m**.
d. 7 + 7 + 7 + 7 = **28 cm**.

Answer to Question 4

a. 2 × 1000 = **2000 g**.
b. 3500 = 3000 + 500, so **3 kg 500 g**.
c. 4 × 1000 = **4000 ml**.
d. 1500 = 1000 + 500, so **1 l 500 ml**.
e. 1000 ÷ 2 = **500 ml**.

Answer to Question 5

a. The labelled marks go 200, 400, 600, 800, 1000 ml. The water level is level with the 600 mark, so there is **600 ml**.
b. 1 litre is 1000 ml. Count on from 600 to 1000: **400 ml** more is needed.

c. Share 600 ml equally into two cups: 600 ÷ 2 = **300 ml** in each cup.

Answer to Question 6

a. **m**: a pitch is about 100 metres long.
b. **kg**: a bag of rice is about 1 kilogram.
c. **ml**: a cup holds about 200 millilitres.
d. **km**: it is a long road journey.
e. **g**: a feather is very light.

Answer to Question 7

a. 9 + 4 + 9 + 4 = **26 m**.
b. 26 × £3. 20 × 3 = 60 and 6 × 3 = 18. 60 + 18 = **£78**.
c. 26 − 2 = **24 m**.
d. New length 12 m. 12 + 4 + 12 + 4 = **32 m**.

Answer to Question 8

a. 250 + 175 + 125 = **550 g**.
b. 1000 − 250 = **750 g**.
c. 2 × 400 = 800 ml. That is **800 ml**, less than 1 litre.
d. 1000 − 800 = **200 ml**.

Answer to Question 9

a. Ben jumped 2 m 15 cm = 215 cm. Aisha 190 cm and Dev 2 m 5 cm = 205 cm. **Ben** jumped the furthest.
b. 215 − 190 = **25 cm**.
c. 205 + 12 = **217 cm** = 2 m 17 cm.
d. 215 cm, 205 cm, 190 cm: **Ben, Dev, Aisha**.

Answer to Question 10

a. Add the grapes and strawberries: 750 g + 500 g = 1250 g. 1000 g is 1 kg, so this is **1 kg 250 g**.
b. Change the apples into grams: 2 kg = 2000 g. Then 2000 + 1250 = **3250 g**.
c. 3250 g has 3 whole thousands of grams and 250 g more: **3 kg 250 g**.
d. 4 kg is 4000 g. Count on from 3250 to 4000: 750 g. He can buy **750 g** more.

Answer to Question 11

a. 8 × 5 = **40 l**.
b. 60 − 40 = **20 l**.
c. 20 ÷ 5 = **4** buckets.
d. 1 l = 4 cups, so 5 l = 5 × 4 = **20** cups.

Answer to Question 12

a. Perimeter means the distance all round the edge. Add all four sides: 50 + 30 + 50 + 30 = **160 m**.
b. 3 laps is 3 × 160 m. 3 × 100 = 300 and 3 × 60 = 180, so 300 + 180 = **480 m**.
c. 1 km is 1000 m. Count on from 480 to 1000: 20 to 500, then 500 more. 20 + 500 = **520 m** short.
d. A square has 4 equal sides of 4 m: 4 + 4 + 4 + 4 = **16 m**.

Answer to Question 13

a. 2000 + 500 = **2500 g**.
b. 1000 + 1000 + 500 = **2500 g**.
c. 2500 − 750 = **1750 g** = 1 kg 750 g.
d. **Less**, because 1750 g is less than 2000 g.

Answer to Question 14

a. The tank holds 50 l and already has 18 l. Count on from 18 to 50: 2 to 20, then 30 more. Dad puts in **32 l**.
b. Each litre costs £2: 32 × £2 = **£64** (double 32).
c. After filling, the tank is full with 50 l. He uses 15 l: 50 − 15 = **35 l** left.
d. 1 litre is 1000 ml, so 35 l = 35 × 1000 = **35 000 ml**.

Answer to Question 15

a. 45 + 30 + 45 + 30 = **150 cm**.
b. **1 m 50 cm**.
c. 200 − 150 = **50 cm**.
d. 55 + 40 + 55 + 40 = 190 cm. 190 is less than 200, so **yes**, 2 m is enough, with 10 cm to spare.

Answer to Question 16

a. 5 × 800 = **4000 g** = 4 kg.
b. 6 × 400 = **2400 g** = 2 kg 400 g.
c. 4000 + 2400 = 6400 g = **6 kg 400 g**.
d. 6 kg 400 g is more than 5 kg, so he needs **2** boxes.

Answer to Question 17

a. 100 + 40 + 100 + 40 = **280 m**.
b. 5 × 280 = **1400 m**, which is 1 km 400 m.
c. 4 × 280 = 1120 m. 1120 − 1000 = **120 m**.
d. 2 × 280 = 560 m. Half a km is 500 m. **Yes**, 560 > 500.

Answer to Question 18

a. 3 + 5 + 2 = **10 l**.
b. 40 − 10 = **30 l**.
c. 40 ÷ 10 = **4** times.
d. 5 l = 5000 ml. 5000 ÷ 250 = **20** plants.

Answer to Question 19

a. 3 m = 300 cm. **Wrong**; he multiplied by 10 instead of 100.
b. 2000 + 400 = 2400. **Right**.
c. Tom multiplied 6 × 4 (the area). The perimeter is 6 + 4 + 6 + 4 = **20 cm**. **Wrong**.
d. 1000 + 500 = 1500. **Right**.

Answer to Question 20

a. Half the perimeter is 15 cm, which is the length plus the width. If the length is 5 cm longer, the width is (15 − 5) ÷ 2 = 5 and the length is 10. So the width is **5 cm** and the length is **10 cm**.
b. 10 + 5 + 10 + 5 = **30 cm**.
c. Many answers work, for example 12 cm by 3 cm: 12 + 3 + 12 + 3 = 30. Also 8 cm by 7 cm or 14 cm by 1 cm.