Test answers - Converting units, area, perimeter and volume

Year: Year 6 · Duration: 40 minutes · /20

Answer to Question 1 (3 marks)

a. 1 km = 1 000 m: 4.2 × 1 000 = **4 200 m**. (1 mark)
b. 1 000 ml = 1 litre: 3 500 ÷ 1 000 = **3.5 litres**. (1 mark)
c. 20 miles is 4 lots of 5 miles, and each 5 miles is about 8 km: 4 × 8 = **about 32 km**. (1 mark)

Answer to Question 2 (4 marks)

a. Perimeter = 14 + 9 + 14 + 9 = **46 m**. (1 mark)
b. Area = length × width = 14 × 9 = **126 m²**. (1 mark)
c. The patio covers 4 × 4 = 16 m², so 126 − 16 = **110 m²** is left. (1 mark)
d. 110 × £3.50 = 110 × £3 + 110 × £0.50 = £330 + £55 = **£385**. (1 mark)

Answer to Question 3 (4 marks)

a. Triangle area = half of base × height: 10 × 7 = 70 and half is **35 cm²**. (1 mark)
b. Parallelogram area = base × perpendicular height: 12 × 5 = **60 cm²**. (1 mark)
c. The triangle must also have area 60: $\frac{1}{2} \times 15 \times h = 60$, so $7.5h = 60$ and $h = 60 \div 7.5 =$ **8 cm**. (2 marks)

Answer to Question 4 (4 marks)

a. 8 × 5 × 4 = **160 cm³**. (1 mark)
b. 5 × 5 × 5 = 125, so the edge is **5 cm**. (1 mark)
c. 40 × 25 × 20 = 20 000 cm³ = **20 litres**. (1 mark)
d. 40 × 25 × 16 = 16 000 cm³ = **16 litres**. (1 mark)

Answer to Question 5 (5 marks)

a. $V = 20 \times 8 \times 1.5 =$ **240 m³**. (1 mark)
b. 240 × 1 000 = **240 000 litres**. (1 mark)
c. 240 000 ÷ 2 000 = 120 minutes = **2 hours**. (1 mark)
d. Bottom: 20 × 8 = 160 m². Two long sides: 2 × 20 × 1.5 = 60 m². Two short sides: 2 × 8 × 1.5 = 24 m². Total = 160 + 60 + 24 = **244 m²**. (2 marks)