Test answers - Ratio, proportion and percentages

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

Answer to Question 1 (3 marks)

a. The HCF is 8, so the ratio is **3 : 5**. (1 mark)
b. 9 : 15 divides by 3, so the ratio is **3 : 5**. (1 mark)
c. 200 cm : 50 cm divides by 50, so the ratio is **4 : 1**. (1 mark)

Answer to Question 2 (4 marks)

a. 5 + 7 = 12 parts, £84 ÷ 12 = £7. Shares: **£35** and **£49**. (1 mark)
b. 1 + 2 + 3 = 6 parts, 90 ÷ 6 = 15. Shares: **15, 30 and 45** sweets. (2 marks)
c. 4 + 5 = 9 parts, £36 ÷ 9 = £4. Shares £16 and £20. The older sister gets **£4** more. (1 mark)

Answer to Question 3 (4 marks)

a. Find one notebook first: £5.20 ÷ 4 = £1.30. Ten cost 10 × £1.30 = **£13**. (1 mark)
b. Each centimetre stands for 2 km: 7.5 × 2 = **15 km**. (1 mark)
c. Multiply both sides by the scale factor 3: 4 × 3 = 12 and 7 × 3 = 21. New size: **12 cm by 21 cm**. (1 mark)
d. Work backwards with the map scale: 15 km ÷ 2 km per cm = **7.5 cm**. (1 mark)

Answer to Question 4 (4 marks)

a. 10% of £250 is £25, so 30% is 3 × £25 = **£75**. (1 mark)
b. 15% of 60 kg = 10% (6 kg) + 5% (3 kg) = 9 kg. New mass: 60 + 9 = **69 kg**. (1 mark)
c. Ali: $\frac{34}{40} = \frac{85}{100} = 85\%$. Bea: $\frac{42}{50} = \frac{84}{100} = 84\%$. 85% > 84%, so **Ali** has the higher percentage. (2 marks)

Answer to Question 5 (5 marks)

a. 3 + 2 + 5 = **10 parts**. (1 mark)
b. 4 litres ÷ 10 = 0.4 litres a part. Orange: 3 × 0.4 = **1.2 litres**. Apple: 2 × 0.4 = **0.8 litres**. Lemonade: 5 × 0.4 = **2 litres**. (2 marks)
c. 5 out of 10 parts, so **50%**. (1 mark)

d. Orange: 1.2 × 1.80 = £2.16. Apple: 0.8 × 1.50 = £1.20. Lemonade: 2 × 0.90 = £1.80. Total = 2.16 + 1.20 + 1.80 = **£5.16**. (1 mark)