FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

R5: Sharing in a ratio

Reason with dividing quantities and ratio in context

20 marks · 25 minutes · Non-calculator

1) Show that sharing £60 in the ratio 2 : 3 gives £24 and £36.

[Question 1: 2 marks]

2) Leo shares £45 in the ratio 4 : 5 and gives £20 and £25. Is he correct? Show how you check.

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[Question 2: 2 marks]

3) Sam shares 40 in the ratio 3 : 5. He works out $\frac{3}{5} \times 40 = 24$ for the first share. Explain his mistake.

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[Question 3: 2 marks]

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4) Pink paint is made from red and white in the ratio 2 : 3. Tia has 6 litres of red and 8 litres of white. Can she use all the paint? What is the most pink paint she can make? Explain.

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[Question 4: 3 marks]

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5) A recipe for 4 people uses 200 g of rice. Show that 7 people need 350 g.

[Question 5: 2 marks]

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6) *A* and *B* share some money in the ratio 3 : 5. *B* gets £24 more than *A*. Show that the total is £96.

[Question 6: 2 marks]

7) A 400 g bag costs £1.80 and a 600 g bag costs £2.58. Which is better value? Show how you decide.

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[Question 7: 2 marks]

8) Explain why sharing in the ratio 1 : 1 gives two equal halves.

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[Question 8: 1 marks]

9) Concrete uses cement, sand and gravel in the ratio 1 : 2 : 3. Show that 18 kg of sand makes 54 kg of concrete.

[Question 9: 2 marks]

10) **10)** £1 = 1.15 euros. Show that 69 euros = £60.

[Question 10: 2 marks]

[Question 10: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Shown	60 ÷ 5 = 12 (M1); C1.
2	Yes	45 ÷ 9 = 5 (M1); 20 : 25 = 4 : 5 and total 45 (C1).
3	15 and 25	Total parts is 8 (C1); B1.
4	No; about 13.3 litres	6 red needs 9 white (M1); white limits: 8 white needs $5\frac{1}{3}$ red (M1); total $13\frac{1}{3}$ litres (C1).
5	Shown	50 g per person (M1); C1.
6	Shown	2 parts = 24 (M1); 8 parts = 96 (C1).
7	600 g bag	45p and 43p per 100 g (M1); C1.
8	Explanation	2 equal parts (C1).
9	Shown	1 part = 9 kg (M1); 6 × 9 (C1).
10	Shown	69 ÷ 1.15 (M1); C1.