FOUNDATION & HIGHER

SAME AT BOTH TIERS

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

R4: Ratio notation

Reason with ratio notation and simplifying

20 marks · 25 minutes · Non-calculator

1) Show that 24 : 36 = 2 : 3

[Question 1: 1 marks]

2) Explain why 2 : 3 is not the same as 3 : 2

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[Question 2: 2 marks]

3) Sam simplifies 40 cm : 2 m to 20 : 1. Explain his mistake.

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[Question 3: 2 marks]

4) Show that $\frac{1}{2} : \frac{1}{3} = 3 : 2$

[Question 4: 2 marks]

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5) Are 4 : 6 and 10 : 15 equivalent ratios? Show how you decide.

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[Question 5: 2 marks]

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6) Explain why 1.5 : 2.5 = 3 : 5

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[Question 6: 2 marks]

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7) Show that 6 : 4 can be written as 1.5 : 1

[Question 7: 1 marks]

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8) Show that 750 g : 2 kg = 3 : 8

[Question 8: 2 marks]

9) For the ratio 5 : 3, Kim says the first part is $\frac{5}{3}$ of the total. Explain her mistake.

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[Question 9: 2 marks]

10) Show that 45 minutes : 1.5 hours = 1 : 2

[Question 10: 2 marks]

11) Explain why the ratio of 20 boys to 25 girls is 4 : 5

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[Question 11: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Shown	Divide by 12 (C1).
2	Explanation	The order matters: the first part matches the first quantity (C2).
3	1 : 5	Units must match: 40 : 200 (C1); B1.
4	Shown	Multiply by 6 (M1); C1.
5	Yes	Both simplify to 2 : 3 (M1); C1.
6	Explanation	Multiply both by 2 (C2).
7	Shown	Divide both by 4 (C1).
8	Shown	750 : 2000 (M1); C1.
9	$\frac{5}{8}$	Total is 8 parts (C1); B1.
10	Shown	45 : 90 (M1); C1.
11	Explanation	Divide both by 5 (C2).