FOUNDATION & HIGHER

SAME AT BOTH TIERS

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

R3: Fractions of quantities

Reason when expressing one quantity as a fraction of another

20 marks · 25 minutes · Non-calculator

1) Show that 20 minutes is $\frac{1}{3}$ of an hour.

[Question 1: 1 marks]

2) Explain why 45 as a fraction of 30 is $\frac{3}{2}$, which is greater than 1

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[Question 2: 2 marks]

3) Jo says 400 g as a fraction of 1 kg is $\frac{400}{1}$. Explain her mistake and give the correct fraction.

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[Question 3: 2 marks]

4) Who did better: 18 out of 24 or 28 out of 40? Show how you decide.

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[Question 4: 2 marks]

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5) Show that 75 cm is $\frac{3}{8}$ of 2 m.

[Question 5: 2 marks]

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6) In a class of 30, 12 walk to school. Ben says $\frac{12}{18}$ of the class walk. Explain his mistake.

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[Question 6: 2 marks]

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7) Show that £1.20 is $\frac{3}{5}$ of £2.

[Question 7: 1 marks]

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8) A bag of 7 kg is compared with a bag of 5 kg. Explain what the fraction $\frac{7}{5}$ tells you.

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[Question 8: 2 marks]

9) Show that 0.6 kg is $\frac{3}{4}$ of 800 g.

[Question 9: 2 marks]

10) A team won 15 of its 25 games and did not draw any. Show that it lost $\frac{2}{5}$ of its games.

[Question 10: 2 marks]

11) Explain why £10 as a fraction of £50 is the same as 100p as a fraction of 500p.

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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	$\frac{20}{60}$ (C1).
2	Explanation	$\frac{45}{30}$ simplified (M1); 45 is more than 30 (C1).
3	$\frac{2}{5}$	Units must match: 1000 g (C1); $\frac{400}{1000}$ (B1).
4	18 out of 24	0.75 and 0.7 (M1); C1.
5	Shown	$\frac{75}{200}$ (M1); C1.
6	$\frac{2}{5}$	Fraction of the whole class needs 30 as the denominator (C1); B1.
7	Shown	$\frac{120}{200}$ (C1).
8	Explanation	The first is $1\frac{2}{5}$ times the second (C2).
9	Shown	$\frac{600}{800}$ (M1); C1.
10	Shown	Lost 10 (M1); $\frac{10}{25}$ (C1).
11	Explanation	Both are $\frac{1}{5}$ (M1); same quantities in different units (C1).