FOUNDATION & HIGHER

SAME AT BOTH TIERS

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

N2: Four operations

Reason about calculations with integers, decimals, fractions and mixed numbers

20 marks · 25 minutes · Non-calculator

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

[Question 1: 2 marks]

2) Sam says $0.4 \times 0.2 = 0.8$. Explain Sam's mistake and give the correct answer.

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[Question 2: 2 marks]

3) $37 \times 24 = 888$. Explain how this shows that $3.7 \times 2.4 = 8.88$

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[Question 3: 2 marks]

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4) Is $\frac{3}{4} + \frac{2}{5} = \frac{5}{9}$? Explain your answer.

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[Question 4: 2 marks]

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5) Show that $4.8 \div 0.06 = 80$

[Question 5: 2 marks]

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6) A recipe needs $2\frac{3}{4}$ cups of flour. Mia has $1\frac{5}{6}$ cups. Show that she needs $\frac{11}{12}$ of a cup more.

[Question 6: 2 marks]

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7) Leo says $-6 \times -3 \div -2 = 9$. Is he right? Explain.

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[Question 7: 2 marks]

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8) Explain why dividing a number by $\frac{1}{2}$ doubles it.

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[Question 8: 1 marks]

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9) Tickets cost £12.75 each. Show that 8 tickets cost £102.

[Question 9: 2 marks]

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10) Which is larger: $\frac{2}{3}$ of 45 or $\frac{3}{5}$ of 50? Show how you decide.

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[Question 10: 2 marks]

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11) Explain why 0.5×0.5 is less than 0.5

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[Question 11: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	Shown	$\frac{7}{3} \times \frac{3}{2}$ (M1); $\frac{21}{6} = 3\frac{1}{2}$ (C1).
2	0.08	Mistake: ignored decimal places (C1); 0.08 (B1).
3	Explanation	Each number divided by 10, so the answer is divided by 100 (M1); clear statement (C1).
4	No, $\frac{23}{20}$	Cannot add numerators and denominators (C1); correct sum (B1).
5	Shown	$480 \div 6$ (M1); 80 (C1).
6	Shown	$\frac{33}{12} - \frac{22}{12}$ (M1); $\frac{11}{12}$ (C1).
7	No, -9	$18 \div (-2) = -9$ (M1); conclusion (C1).
8	Explanation	e.g. there are 2 halves in every whole (C1).
9	Shown	12.75×8 shown, e.g. $96 + 6$ (M1); 102 (C1).
10	Equal	Both are 30 (M1); conclusion (C1).
11	Explanation	Multiplying by a number less than 1 makes it smaller (C1).