FOUNDATION & HIGHER

SAME AT BOTH TIERS

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

N11: Fractions and ratio

Solve problems combining fractions and ratio

20 marks · 25 minutes · Non-calculator

1) Boys and girls in a class are in the ratio 3 : 5. $\frac{2}{3}$ of the boys and $\frac{2}{5}$ of the girls walk to school. What fraction of the class walks?

.....

[Question 1: 3 marks]

2) Ann and Bob share some money in the ratio 2 : 3. Ann then gives Bob £10 and the ratio becomes 1 : 4. How much money is there altogether?

£ .....

[Question 2: 4 marks]

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3) $\frac{3}{8}$ of a paint mix is red and the rest is white. 2 litres of red are added and the ratio of red to white becomes 1 : 1. How many litres were there at first?

..... litres

[Question 3: 3 marks]

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4) Cats and dogs at a rescue centre are in the ratio 4 : 7. $\frac{2}{7}$ of the dogs are puppies. There are 12 puppies. How many cats and dogs are there altogether?

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[Question 4: 3 marks]

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5) Three friends share money in the ratio 2 : 3 : 5. The friend with the most gets £45 more than the friend with the least. How much is shared?

£.....

[Question 5: 3 marks]

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6) A bag has red and blue counters in the ratio 3 : 5. When 4 red counters are added, the ratio becomes 1 : 1. How many counters were in the bag at first?

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[Question 6: 2 marks]

7) $\frac{1}{4}$ of a number A is equal to $\frac{2}{3}$ of a number B. Find the ratio A : B.

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[Question 7: 2 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	$\frac{1}{2}$	$\frac{3}{8} \times \frac{2}{3}$ (P1); $\frac{5}{8} \times \frac{2}{5}$ (P1); $\frac{1}{4} + \frac{1}{4}$ (A1).
2	£50	$2x - 10 : 3x + 10 = 1 : 4$ (P1); $8x - 40 = 3x + 10$ (P1); $x = 10$ (P1); £50 (A1).
3	8	Red $\frac{3T}{8}$, white $\frac{5T}{8}$ (P1); $\frac{3T}{8} + 2 = \frac{5T}{8}$ (P1); 8 (A1).
4	66	Dogs $12 \div \frac{2}{7} = 42$ (P1); cats 24 (P1); 66 (A1).
5	£150	3 parts = £45 (P1); 1 part £15 (P1); A1.
6	16	$3k + 4 = 5k$ (P1); $k = 2$, total 16 (A1).
7	8 : 3	$\frac{A}{4} = \frac{2B}{3}$ (P1); A1.