FOUNDATION & HIGHER

SAME AT BOTH TIERS

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

R7: Proportion

Proportion as equality of ratios

20 marks · 25 minutes · Non-calculator

1) 4 pens cost £3. How much do 10 pens cost?

£ .....

[Question 1: 2 marks]

2) Find x.

(a) $5 : 8 = 15 : x$

.....

(1)

(b) $3 : 7 = x : 42$

.....

(1)

[Question 2: 2 marks]

3) A recipe uses 250 g of butter to make 12 cakes. How much butter is needed for 30 cakes?

..... g

[Question 3: 2 marks]

4) Are the ratios 12 : 20 and 18 : 30 in proportion? Show how you decide.

.....

[Question 4: 2 marks]

5) On a map, 3 cm represents 7.5 km. What distance does 8 cm represent?

..... km

[Question 5: 2 marks]

6) Find x when $x : 6 = 10 : 4$

.....

[Question 6: 1 marks]

7) £1 = $1.30. Change $91 into pounds.

£ .....

[Question 7: 2 marks]

8) 7 identical books weigh 2.1 kg. How much do 12 of these books weigh?

..... kg

[Question 8: 2 marks]

9) Find x when $(x + 1) : 5 = 3 : 1$

.....

[Question 9: 2 marks]

10) 3 tins of paint cover 27 m^2. How many tins are needed to cover 63 m^2?

.....

[Question 10: 2 marks]

11) Rectangle A is 4 cm by 10 cm. Rectangle B is 6 cm by 15 cm. Are the length and width in the same ratio for both? Show how you decide.

.....

[Question 11: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	£7.50	75p each or 3×2.5 (M1); A1.
2	(a) 24 (b) 18	B1 each.
3	625	$250 \div 12 \times 30$ (M1); A1.
4	Yes	Both simplify to 3 : 5 (M1); yes (A1).
5	20	2.5 km per cm (M1); A1.
6	15	B1.
7	£70	$91 \div 1.3$ (M1); A1.
8	3.6	0.3 kg each (M1); A1.
9	14	$x + 1 = 15$ (M1); A1.
10	7	9 m^2 per tin (M1); A1.
11	Yes	4 : 10 = 6 : 15 = 2 : 5 (B1).