

Ratio and Proportion

ANSWERS

Calculator | 30 minutes | Total marks: 31

Name

Class

1 Write each ratio in its simplest form.

(a) 15 : 25

Answer 3 : 5 (1) [1 mark]

(b) 12 : 8 : 20

Answer 3 : 2 : 5 (1) [1 mark]

(c) 1.5 kg : 600 g

1500 : 600 (1)

Answer 5 : 2 (1) [2 marks]

2 Share £45 in the ratio 4 : 5

45 ÷ 9 = 5 (1)

Answer £20 and £25 (1) [2 marks]

3

- (a) The ratio of red tulips to yellow tulips in a garden is 2 : 7

What fraction of the tulips are yellow?

Answer $\frac{2}{9}$ (1)

[1 mark]

- (b) $\frac{3}{8}$ of the cars in a car park are white. The rest are not white.

Write down the ratio of white cars to cars that are not white.

Answer $3 : 5$ (1)

[1 mark]

4

5 notebooks cost £6.40

Work out the cost of 8 notebooks.

$$6.40 \div 5 = 1.28 \text{ (1)}$$

Answer £ 10.24 (1)

[2 marks]

5

Orange paint is made by mixing red paint and yellow paint in the ratio 2 : 5

- (a) Jen uses 6 litres of red paint.

How much yellow paint does she use?

$$6 \div 2 = 3 \text{ (1)}$$

Answer 15 (1)

litres

[2 marks]

- (b) How much orange paint does Jen make?

Answer 21 (1)

litres

[1 mark]

6 Write the ratio 4 : 18 in the form 1 : n

Answer 1 : 4.5 (1) [1 mark]

7 Share 132 stickers in the ratio 2 : 3 : 7

$$132 \div 12 = 11 \text{ (1)}$$

$$2 \times 11, 3 \times 11, 7 \times 11 \text{ (1)}$$

Answer 22, 33, 77 (1) [3 marks]

8 (a) x and y are in the ratio 1 : 4

Work out y when $x = 6$

Answer 24 (1) [1 mark]

(b) Write an equation for y in terms of x .

Answer $y = 4x$ (1) [1 mark]

(c) For a different pair of numbers, $y = 2.5x$

Write the ratio $x : y$ in its simplest form.

Answer 2 : 5 (1) [1 mark]

9

A recipe for 10 flapjacks uses 120 g of oats, 80 g of butter and 60 g of syrup.

(a) How many grams of oats are needed for 25 flapjacks?

$$120 \div 10 = 12 \text{ (1)}$$

Answer 300 (1) g [2 marks]

(b) Leo has 280 g of butter and plenty of oats and syrup.

Work out the greatest number of flapjacks Leo can make.

$$80 \div 10 = 8 \text{ g of butter each (1)}$$

Answer 35 (1) [2 marks]

10

Kitchen roll is sold in two packs.

Pack A: 6 rolls for £2.70 Pack B: 10 rolls for £4.40

Which pack is the better value? Show how you decide.

$$A: 2.70 \div 6 = \text{£}0.45 \text{ a roll}$$

$$B: 4.40 \div 10 = \text{£}0.44 \text{ a roll (1)}$$

Answer Pack B (1) [2 marks]

11

Mortar is made by mixing cement and sand in the ratio 1 : 5

A builder makes 4.2 kg of mortar.

How many grams of cement does the builder use?

$$4.2 \text{ kg} = 4200 \text{ g (1)}$$

$$4200 \div 6$$

Answer 700 (1) g [2 marks]

12

Kai and Lily share some money in the ratio 3 : 7

Lily gets £28 more than Kai.

How much money does Kai get?

4 parts = £28, so 1 part = £7 (1)

3 × 7 (1)

Answer £ 21 (1)

[3 marks]

Question	Topic	RAG
1	I can simplify a ratio, converting units first	
2	I can share an amount in a ratio	
3	I can link ratios and fractions	
4	I can solve a direct proportion problem	
5	I can find a missing amount from a ratio	
6	I can write a ratio in the form 1 : n	
7	I can share in a three part ratio	
8	I can link ratios and linear functions	
9	I can scale a recipe and find a limiting ingredient	
10	I can find the best buy	
11	I can solve a ratio problem with units	
12	I can use a difference to find a share	