

GCSE Maths: Ratio notation and simplifying ratios (Foundation): answers

GCSE Maths - Ratio and Proportion - Foundation - Lesson 15.2

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch15-ratio-proportion/foundation/ratio-notation-and-simplifying-ratios/

Exercise 15B Ratio notation and simplifying Non-calculator

- 1 The diagram shows red and blue blocks. Write the ratio of red blocks to blue blocks.



Answer: 3 : 5

- 2 Write each ratio in its simplest form.

(a) 4 : 6

Answer: 2 : 3

(b) 10 : 25

Answer: 2 : 5

(c) 12 : 18

Answer: 2 : 3

(d) 15 : 45

Answer: 1 : 3

(e) 24 : 36

Answer: 2 : 3

(f) 16 : 48

Answer: 1 : 3

- 3 A box has 8 red pens and 12 blue pens. Write each ratio in its simplest form.

(a) The ratio of red pens to blue pens

Answer: 2 : 3

(b) The ratio of blue pens to red pens

Answer: 3 : 2

- 4 Write each three-part ratio in its simplest form.

(a) 6 : 9 : 12

Answer: 2 : 3 : 4

(b) 20 : 30 : 50

Answer: 2 : 3 : 5

(c) 8 : 12 : 20

Answer: 2 : 3 : 5

5 Write each ratio in its simplest form. Change to the same unit first.

(a) 50 cm : 2 m

Answer: 1 : 4

(b) £2 : 50p

Answer: 4 : 1

(c) 20 minutes : 1 hour

Answer: 1 : 3

(d) 3 kg : 750 g

Answer: 4 : 1

(e) 400 m : 1.2 km

Answer: 1 : 3

(f) 1.5 litres : 500 ml

Answer: 3 : 1

6 Write each ratio in its simplest form. These ratios contain decimals.

(a) 0.5 : 2

Answer: 1 : 4

(b) 1.2 : 0.8

Answer: 3 : 2

(c) 0.25 : 1.5

Answer: 1 : 6

(d) 0.6 : 0.9 : 1.5

Answer: 2 : 3 : 5

7 Write each ratio in its simplest form. These ratios contain fractions.

(a) $\frac{1}{2} : \frac{3}{4}$

Answer: 2 : 3

(b) $\frac{2}{3} : \frac{5}{6}$

Answer: 4 : 5

(c) $\frac{1}{4} : \frac{1}{6}$

Answer: 3 : 2

(d) $\frac{3}{5} : \frac{1}{10}$

Answer: 6 : 1

8 Write each ratio in the form given.

(a) 2 : 10 as 1 : n

Answer: 1 : 5

(b) 5 : 20 as 1 : n

Answer: 1 : 4

(c) 4 : 10 as 1 : n

Answer: 1 : 2.5

(d) 8 : 12 as 1 : n

Answer: 1 : 1.5

(e) 15 : 3 as n : 1

Answer: 5 : 1

(f) 9 : 6 as n : 1

Answer: 1.5 : 1

9 Jan is 1.2 m tall. Her brother is 90 cm tall. Write the ratio of Jan's height to her brother's height in its simplest form.

Answer: 4 : 3

10 Zara has £48 and Ali has £16, as in the worked example. Ben has £60 and Cara has £15. Who has the greater number of times as much as the other: Zara compared with Ali, or Ben compared with Cara?

Answer: Ben compared with Cara (4 times, which is more than 3 times)

11 A rectangular garden is 18 m long and 12 m wide. (a) Write the ratio length : width in its simplest form. (b) Write the ratio width : length in the form 1 : n .

(a) Length : width

Answer: 3 : 2

(b) Width : length as 1 : n

Answer: 1 : 1.5

12 A map has a scale where 4 cm on the map represents 1 km on the ground. Write this scale as a ratio in the form 1 : n .

Answer: 1 : 25000

13 Dev writes "1 m : 50 cm = 1 : 50". Explain his mistake and write the ratio in its simplest form.

Answer: 2 : 1

14 Write down three different ratios that are equivalent to 2 : 5.

Answer: 4 : 10, 6 : 15, 8 : 20

15 Three of these ratios are equivalent to each other. Which one is the odd one out? 3 : 4 6 : 8 9 : 12 12 : 18

Answer: 12 : 18

16 Mel makes a drink with 150 ml of cordial and 0.6 litres of water. (a) Write the ratio of cordial to water in the form 1 : n . (b) What fraction of the drink is cordial? Explain how you know.

(a) Cordial : water as 1 : n

Answer: 1 : 4

(b) Fraction that is cordial

Answer: $\frac{1}{5}$