Year 7 ratios worksheet

Year 7 · 10 questions · www.tuterly.com.au

Name: _____ Date: _____

Question 1

Simplify the ratio 24 : 36.

Answer: _____

Question 2

Divide $90 between Priya and Joel in the ratio 2 : 3.

Answer: _____

Question 3

Write the ratio 12 : 18 in simplest form.

Answer: _____

Question 4

A baker makes a batch of dough using flour and water in the ratio 5 : 2 by weight. She wants to make 980 grams of dough in total. How many grams of flour and how many grams of water does she need?

Answer: _____

Question 5

Write the ratio 3 m : 50 cm in simplest form.

Answer: _____

Question 6

A recipe uses flour and sugar in the ratio 3:2. If you use 360 g of flour, how many grams of sugar do you need?

Answer: _____

Question 7

Square A has sides of 2 cm. Square B has sides of 6 cm.

(a) Write the ratio of their side lengths in simplest form.

(b) Find the area of each square and write the ratio of their areas in simplest form.

Answer: _____

Question 8

Divide $120 between two friends, Anika and Ben, in the ratio 3 : 5. How much does each person receive?

Answer: _____

Question 9

Cube A has edges of 1 cm. Cube B has edges of 2 cm. Find the ratio of their volumes.

Answer: _____

Question 10

A map has a scale of 1 : 1000. Two trees are 5 cm apart on the map. How far apart are they in real life, in metres?

Answer: _____

Year 7 ratios: answers and worked solutions

Year 7 · 10 questions · www.tuterly.com.au

Question 1

Key idea: Divide both parts of the ratio by their highest common factor (HCF).

1. Find the HCF of 24 and 36: the HCF is 12. 2. Divide both parts by 12:\ 24 : 36 = (24 ÷ 12) : (36 ÷ 12) 3. Simplify:\ = 2 : 3

Answer: 2 : 3

Question 2

Key idea: Find the value of one part by dividing the total by the number of parts, then multiply for each share.

1. Count the total number of parts: 2 + 3 = 5 parts. 2. Find the value of one part: 90 ÷ 5 = 18, so one part is worth $18. 3. Calculate Priya's share (2 parts): 2 × 18 = 36, so Priya gets $36. 4. Calculate Joel's share (3 parts): 3 × 18 = 54, so Joel gets $54. 5. Check: 36 + 54 = 90. ✓

Answer: Priya gets $36 and Joel gets $54.

Question 3

Answer: 2 : 3

Question 4

Key idea: The total weight is split into parts according to the ratio, so find the value of one part first.

1. Count the total number of parts: 5 + 2 = 7 parts. 2. Find the value of one part: 980 ÷ 7 = 140 grams per part. 3. Calculate the flour (5 parts): 5 × 140 = 700 grams. 4. Calculate the water (2 parts): 2 × 140 = 280 grams. 5. Check: 700 + 280 = 980 grams. ✓

Answer: The baker needs 700 g of flour and 280 g of water.

Question 5

Answer: 6 : 1 (300 : 50)

Question 6

Key idea: Scale the ratio so that the flour part equals 360 g.

1. The ratio of flour to sugar is 3:2. 2. Find the value of one part: 360 ÷ 3 = 120 g per part. 3. Sugar is 2 parts: 2 × 120 = 240 g. 4. Check: flour to sugar is 360:240 = 3:2 ✓

Answer: 240 g

Question 7

Answer: (a) 1 : 3 (b) 4 cm^2 and 36 cm^2, ratio 1 : 9

Question 8

Key idea: Divide the total by the number of parts, then multiply for each person's share.

1. Count the total number of parts: 3 + 5 = 8 parts. 2. Find the value of one part: 120 ÷ 8 = 15, so one part is worth $15. 3. Calculate Anika's share (3 parts): 3 × 15 = 45, so Anika gets $45. 4. Calculate Ben's share (5 parts): 5 × 15 = 75, so Ben gets $75. 5. Check: 45 + 75 = 120. ✓

Question 9

Answer: 1 : 8 (1 cm^3 and 8 cm^3)

Question 10

Answer: 50 m (5000 cm)