Ratio and area

ANSWERS

1

A rectangle has a perimeter of 40 cm.
Its length and width are in the ratio 3 : 1.
Find its area.



Length + width 20 cm, 4 parts
One part 5 cm, so 15 and 5 cm
Area 75 cm²

Answer 75 cm²

2

A rectangle has a perimeter of 56 cm.
Its length and width are in the ratio 5 : 2.
Find its area.



Length + width 28 cm, 7 parts
One part 4 cm, so 20 and 8 cm
Area 160 cm²

Answer 160 cm²

3

A rectangle has a perimeter of 36 cm.
Its length and width are in the ratio 2 : 1.
Find its area.



Length + width 18 cm, 3 parts
One part 6 cm, so 12 and 6 cm
Area 72 cm²

Answer 72 cm²

4

A rectangle has a perimeter of 50 cm.
Its length and width are in the ratio 3 : 2.
Find its area.

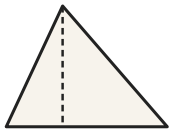


Area 150 cm²

Answer 150 cm²

5

The base and the height of a triangle are in the ratio 4 : 3. Together they add up to 21 cm. Find the area of the triangle.

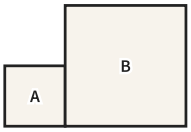


one part 3 cm: base 12 cm, height 9 cm

Answer 54 cm²

6

A line 12 cm long is split in the ratio 1 : 2.
A square is drawn on each part.
Find the ratio of the area of square A to the area of square B.

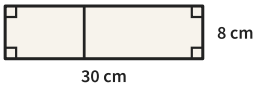


sides 4 cm and 8 cm, areas 16 and 64 cm²

Answer 1 : 4

7

A rectangle is 30 cm long and 8 cm wide.
A line splits its length in the ratio 2 : 3.
Find the area of the larger part.

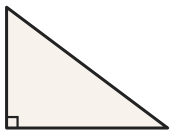


one part 6 cm: 12 cm and 18 cm

Answer 144 cm²

8

The two shorter sides of a right angled triangle are in the ratio 3 : 4.
Together they are 28 cm long.
Find the area of the triangle.



one part 4 cm: 12 cm and 16 cm

Answer 96 cm²

Ratio and area *further practice*

ANSWERS

9

A rectangle has a perimeter of 72 cm.
Its length and width are in the ratio 7 : 2.
Find its area.

36 cm, 9 parts of 4 cm: 28 cm and 8 cm

Answer 224 cm²

10

A garden is 20 m long and 15 m wide.
Its length is split into lawn and patio in the ratio 3 : 1. Find the area of the patio.

the patio is 5 m of the length: 5 × 15

Answer 75 m²

11

A wire 48 cm long is cut into two pieces in the ratio 1 : 2. Each piece is bent into a square. Find the total area of the two squares.

pieces 16 cm and 32 cm, so sides 4 cm and 8 cm

Answer 80 cm²

12

The base and height of a triangle are in the ratio 5 : 2. The base is 15 cm longer than the height. Find the area of the triangle.

3 parts are 15 cm: base 25 cm, height 10 cm

Answer 125 cm²

13

The length and width of a rectangle are in the ratio 3 : 2. Its area is 150 cm².
Find its perimeter.

6 squares of one part: one part² = 25, so 15 cm by 10 cm

Answer 50 cm

14

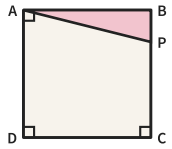
Rectangle A has sides in the ratio 2 : 1.
Rectangle B has sides in the ratio 3 : 2.
Both have a perimeter of 30 cm.
Which has the larger area, and by how much?

A is 10 by 5 = 50 cm², B is 9 by 6 = 54 cm²

Answer B, by 4 cm²

15

ABCD is a square of side 12 cm. P is on BC with BP : PC = 1 : 3. Find the ratio of the shaded area to the unshaded area.



BP = 3 cm, shaded triangle ½ × 12 × 3 = 18 cm², unshaded 126 cm²

Answer 1 : 7

16

A rectangle has a perimeter of 24 cm and its length and width are in the ratio 2 : 1.
Lily says the length is 16 cm because 24 ÷ 3 × 2 = 16. Explain her mistake and find the area.

the perimeter is two lengths and two widths: share 12 cm, so 8 cm by 4 cm

Answer 32 cm²