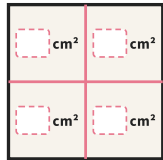


Simplifying Surds

1

Simplify $\sqrt{12}$



12 cm² cut into 4 equal squares. The big side is two small sides.

$$\sqrt{12} = \sqrt{\square} \times \sqrt{\square}$$

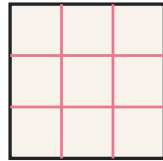
square root of the square number

$$= \square \times \sqrt{\square}$$

Answer _____

2

Simplify $\sqrt{18}$



18 cm² cut into 9 equal squares.

$$\sqrt{18} = \sqrt{\square} \times \sqrt{\square}$$

square root of the square number

$$= \square \times \sqrt{\square}$$

Answer _____

3

Simplify $\sqrt{50}$

$$\sqrt{50} = \sqrt{\square} \times \sqrt{\square}$$

square root of the square number

$$= \square \times \sqrt{\square}$$

Answer _____

4

Simplify $\sqrt{45}$

$$\sqrt{45} = \sqrt{\square} \times \sqrt{\square}$$

square root of the square number

$$= \square \times \sqrt{\square}$$

Answer _____

5

Simplify $3\sqrt{20}$

$$3\sqrt{20} = 3 \times \sqrt{\square} \times \sqrt{\square}$$

square root of the square number

$$= \square \times \sqrt{\square}$$

Answer _____

6

Simplify $\sqrt{12} + \sqrt{27}$

$$\sqrt{12} = \square$$

$$\sqrt{27} = \square$$

Answer _____

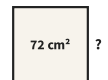
7

Simplify $\sqrt{6} \times \sqrt{3}$

Answer _____

8

A square has an area of 72 cm². Find the length of one side as a surd in its simplest form.



Answer _____

Simplifying Surds *further practice*

9

Simplify $\sqrt{48}$

Answer _____

10

Write $4\sqrt{5}$ as the square root of a single number.

Answer _____

11

Which is bigger?
 $3\sqrt{7}$ or $2\sqrt{15}$

Answer _____

12

A rectangle is $\sqrt{20}$ cm long and $\sqrt{45}$ cm wide. Find its perimeter in its simplest form.

Answer _____

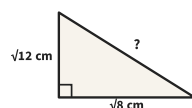
13

Expand and simplify
 $\sqrt{3}(\sqrt{12} + 5)$

Answer _____

14

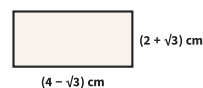
Find the length of the longest side. Give your answer as a surd in its simplest form.



Answer _____

15

Find the area of this rectangle. Give your answer in the form $a + b\sqrt{3}$.



Answer _____

16

$\sqrt{18} + \sqrt{50} = \sqrt{n}$
Find the value of n .

Answer _____