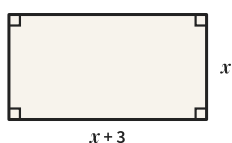


Area and quadratic equations



1

The area of this rectangle is 40 cm^2 . Find x .

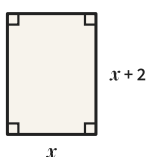


$$\begin{aligned} \text{Area } x(x+3) &= 40 \\ x^2 + 3x - 40 &= 0 \\ (\quad)(\quad) &= 0 \end{aligned}$$

Answer _____

2

The area of this rectangle is 48 cm^2 . Find x .

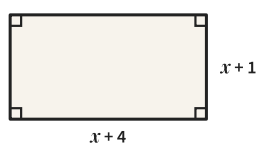


$$\begin{aligned} \text{Area } x(x+2) &= 48 \\ (\quad) &= 0 \\ (\quad)(\quad) &= 0 \end{aligned}$$

Answer _____

3

The area of this rectangle is 54 cm^2 . Find x .



$$\begin{aligned} \text{Area } (\quad) &= (\quad) \\ (\quad) &= 0 \\ (\quad)(\quad) &= 0 \end{aligned}$$

Answer _____

4

The area of this rectangle is 60 cm^2 . Find x .

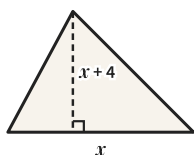


$$(\quad)(\quad) = 0$$

Answer _____

5

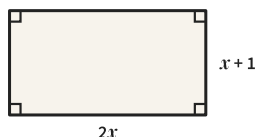
The area of this triangle is 16 cm^2 . Find its height.



Answer _____

6

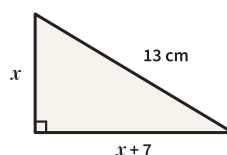
The area of this rectangle is 60 cm^2 . Find its perimeter.



Answer _____

7

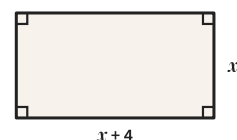
Use Pythagoras to find x . Then find the area of the triangle.



Answer _____

8

The area of this rectangle is 50 cm^2 . It will not factorise. Find x to 1 decimal place.



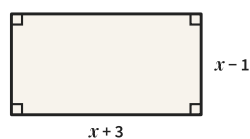
Answer _____

Area and quadratic equations *further practice*



9

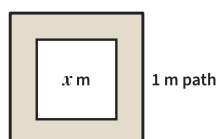
The area of this rectangle is 45 cm^2 . Find the length of each side.



Answer _____

10

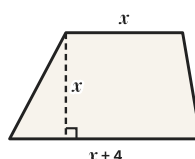
A square pond of side $x \text{ m}$ has a path 1 m wide all round it. The path has an area of 32 m^2 . Find x .



Answer _____

11

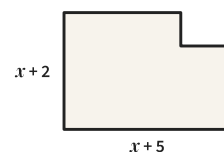
The area of this trapezium is 30 cm^2 . Find x to 2 decimal places.



Answer _____

12

A 3 cm by 2 cm corner is cut off this rectangle. The area left is 64 cm^2 . Find x .



Answer _____

13

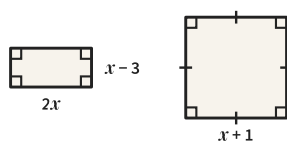
A rectangle is $x \text{ cm}$ wide and 3 cm longer than it is wide. Its area is 28 cm^2 . Show that $x^2 + 3x - 28 = 0$, then find the perimeter.



Answer _____

14

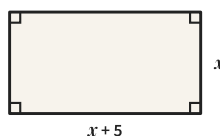
The rectangle and the square have the same area. Find x to 1 decimal place.



Answer _____

15

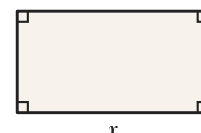
The area of this rectangle must be more than 50 cm^2 . x is a whole number. What is the smallest it can be?



Answer _____

16

A rectangle has a perimeter of 20 cm and one side $x \text{ cm}$. Show that its area is $10x - x^2$ and explain why the area cannot be more than 25 cm^2 .



Answer _____