

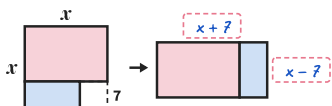
The Difference of Two Squares

ANSWERS

1

Factorise $x^2 - 49$

turn the blue piece and stand it on the right



square root each term

$\sqrt{\text{of } x^2}$ is x $\sqrt{\text{of } 49}$ is 7

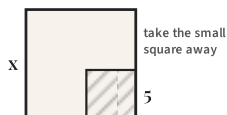
one bracket with +, one with -

$(x + 7)(x - 7)$

Answer $(x + 7)(x - 7)$

2

Factorise $x^2 - 25$



square root each term

$\sqrt{\text{of } x^2}$ is x $\sqrt{\text{of } 25}$ is 5

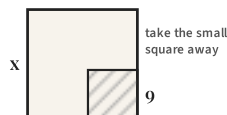
one bracket with +, one with -

$(x + 5)(x - 5)$

Answer $(x + 5)(x - 5)$

3

Factorise $x^2 - 81$



square root each term

$\sqrt{\text{of } x^2}$ is x $\sqrt{\text{of } 81}$ is 9

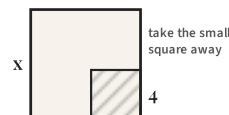
one bracket with +, one with -

$(x + 9)(x - 9)$

Answer $(x + 9)(x - 9)$

4

Factorise $x^2 - 16$



square root each term

$\sqrt{\text{of } x^2}$ is x $\sqrt{\text{of } 16}$ is 4

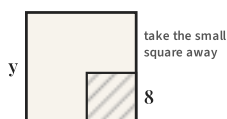
one bracket with +, one with -

$(x + 4)(x - 4)$

Answer $(x + 4)(x - 4)$

5

Factorise $y^2 - 64$



square root each term

$\sqrt{\text{of } y^2}$ is y $\sqrt{\text{of } 64}$ is 8

one bracket with +, one with -

$(y + 8)(y - 8)$

Answer $(y + 8)(y - 8)$

6

Factorise $25 - x^2$

$\sqrt{\text{of } 25}$ is 5 $\sqrt{\text{of } x^2}$ is x

$(5 + x)(5 - x)$

Answer $(5 + x)(5 - x)$

7

Factorise $4x^2 - 9$

$\sqrt{\text{of each: } 2x \text{ and } 3}$

Answer $(2x + 3)(2x - 3)$

8

Work out $51^2 - 49^2$ without a calculator.

$(51 + 49)(51 - 49) = 100 \times 2$

Answer 200

The Difference of Two Squares *further practice*

ANSWERS

9

Factorise $9x^2 - 16$

$\sqrt{9x^2} = 3x$ and $\sqrt{16} = 4$

Answer $(3x + 4)(3x - 4)$

10

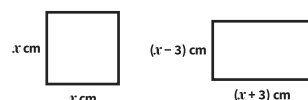
Factorise $a^2 - 64b^2$

$\sqrt{a^2} = a$ and $\sqrt{64b^2} = 8b$

Answer $(a + 8b)(a - 8b)$

11

A square has sides of x cm.
A rectangle is $(x + 3)$ cm long and $(x - 3)$ cm wide. Which has the bigger area, and by how much?



$(x + 3)(x - 3) = x^2 - 9$

Answer *the square, by 9 cm^2*

12

Find the missing terms.

$4x^2 - \square = (2x + 5)(\square - 5)$

$5 \times 5 = 25$

Answer $4x^2 - 25 = (2x + 5)(2x - 5)$

13

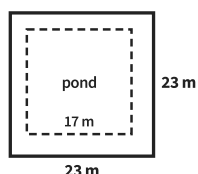
Factorise fully $3x^2 - 75$

take out 3 first: $3(x^2 - 25)$

Answer $3(x + 5)(x - 5)$

14

A square garden has sides of 23 m.
It has a square pond with sides of 17 m. Without a calculator, work out the area of the garden that is not pond.

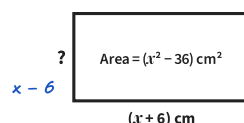


$(23 + 17)(23 - 17) = 40 \times 6$

Answer 240 m^2

15

Find an expression for the width of this rectangle.



$x^2 - 36 = (x + 6)(x - 6)$

Answer $(x - 6) \text{ cm}$

16

Nina says $x^2 + 25 = (x + 5)(x - 5)$.
Is Nina right? Explain.

$(x + 5)(x - 5)$ expands to $x^2 - 25$

it only works for a difference: a minus

Answer *No*