The quadratic formula

1

Write down the values of a, b and c.

(a) $3x^2 + 2x - 5 = 0$

$a =$ 3 $b =$ 2 $c =$

(b) $x^2 - 4x + 1 = 0$

$a =$ 1 $b =$ $c =$

2

Write down the values of a, b and c.

(a) $5x^2 - x - 3 = 0$

$a =$ $b =$ $c =$

(b) $x^2 = 7x - 4$

$= 0$

$a =$ $b =$ $c =$

3

Solve $x^2 + 6x + 8 = 0$.

$a =$ 1 $b =$ 6 $c =$ 8

$b^2 - 4ac =$ 6 $^2 - 4 \times$ 1 $\times$ 8

$=$

$x = \dfrac{- \pm \sqrt{\quad}}{2 \times}$

$x =$

4

Solve $x^2 - 2x - 15 = 0$.

$a =$ 1 $b =$ −2 $c =$ −15

$b^2 - 4ac =$ $^2 - 4 \times$ $\times$

$=$

$x = \dfrac{- \pm \sqrt{\quad}}{2 \times}$

$x =$

5

Solve $x^2 - 9x + 14 = 0$.

$a =$ $b =$ $c =$

$b^2 - 4ac =$ $^2 - 4 \times$ $\times$

$=$

$x = \dfrac{- \pm \sqrt{\quad}}{2 \times}$

$x =$

6

Solve $x^2 + 8x + 5 = 0$. Give your answers to 2 decimal places.

$a =$ 1 $b =$ 8 $c =$ 5

$b^2 - 4ac =$ $^2 - 4 \times$ $\times$

$=$

$x = \dfrac{- \pm \sqrt{\quad}}{2 \times}$

$x =$

7

Solve $x^2 - 5x + 3 = 0$. Give your answers to 2 decimal places.

$a =$ $b =$ $c =$

$b^2 - 4ac =$ $^2 - 4 \times$ $\times$

$=$

$x = \dfrac{- \pm \sqrt{\quad}}{2 \times}$

$x =$

8

Jo solves $x^2 - 6x + 4 = 0$. She writes

$$x = \frac{-6 \pm \sqrt{(36 - 16)}}{2}$$

Explain her mistake. Then solve it.
Give your answers to 2 decimal places.

$x =$

The quadratic formula *further practice*

9

Solve $x^2 + 3x - 1 = 0$.
Give your answers to 2 decimal places.

Answer

10

Solve $2x^2 + 7x + 3 = 0$.

Answer

11

Solve $3x^2 - 4x - 2 = 0$.
Give your answers to 2 decimal places.

Answer

12

Solve $x^2 = 4x + 3$. Give your answers to 2 decimal places.

Answer

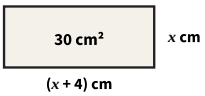
13

Work out $b^2 - 4ac$ for $x^2 + 2x + 6 = 0$.
How many solutions does it have?

Answer

14

The area of the rectangle is 30 cm^2.
Show that $x^2 + 4x - 30 = 0$, then find x to 2 decimal places.



Answer

15

Solve $x(x + 5) = 2$. Give your answers to 2 decimal places.

Answer

16

Sam solves $2x^2 + 5x - 1 = 0$ and writes $x = \frac{-5 \pm \sqrt{33}}{2}$.

Explain his mistake. Then solve it to 2 decimal places.

Answer