Solving Quadratics with the Formula

1

Solve $x^2 + 6x + 4 = 0$

Give your answers to 2 decimal places.

a, b and c: keep the signs

$a =$ ☐ $b =$ ☐ $c =$ ☐

put the numbers in

$$x = \frac{-\square \pm \sqrt{\square^2 - 4 \times \square \times \square}}{2 \times \square}$$

$x =$ _____

2

Solve $x^2 + 5x - 2 = 0$

Give your answers to 2 decimal places.

a, b and c: keep the signs

$a = 1$ $b = 5$ $c = -2$

put the numbers in

$$x = \frac{-\square \pm \sqrt{\square^2 - 4 \times \square \times \square}}{2 \times \square}$$

$x =$ _____

3

Solve $3x^2 - 7x + 1 = 0$

Give your answers to 2 decimal places.

a, b and c: keep the signs

$a =$ ☐ $b =$ ☐ $c =$ ☐

put the numbers in

$$x = \frac{-\square \pm \sqrt{\square^2 - 4 \times \square \times \square}}{2 \times \square}$$

$x =$ _____

4

Solve $2x^2 + x - 5 = 0$

Give your answers to 2 decimal places.

$$x = \frac{-\square \pm \sqrt{\square^2 - 4 \times \square \times \square}}{2 \times \square}$$

$x =$ _____

5

Solve $x^2 = 3x + 2$

Give your answers to 2 decimal places.

Make one side zero first.

$x =$ _____

6

Solve $5x^2 - x - 2 = 0$

Give your answers to 2 decimal places.

Find a, b and c first.

$x =$ _____

7

Ali solves $x^2 - 7x + 3 = 0$.

He types $-7^2 - 4 \times 1 \times 3$ into his calculator, gets -61 and says there are no solutions. Explain his mistake.

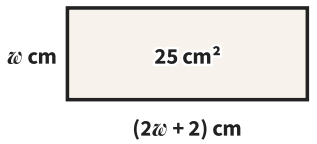
Then solve the equation, giving your answers to 2 decimal places.

$x =$ _____

8

A rectangular label is w cm wide and $(2w + 2)$ cm long. Its area is 25 cm^2.

Find w to 2 decimal places.



$w =$ _____

Solving Quadratics with the Formula *further practice*

9

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

Answer _____

10

Solve $2x^2 + 5 = 9x$
Give your answers to
2 decimal places.

Answer _____

11

Solve $(x + 2)(x - 1) = 5$
Give your answers to
2 decimal places.

Answer _____

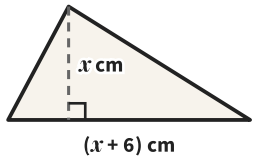
12

A ball is kicked straight up.
After t seconds its height is
$20t - 5t^2$ metres. Find both times
when the ball is 14 m high, to
2 decimal places.

Answer _____

13

The triangle has an area of 18 cm^2.
Find x to 2 decimal places.



Answer _____

14

Solve $\frac{6}{x} = x + 2$
Give your answers to
2 decimal places.

Answer _____

15

The total of the whole numbers
$1 + 2 + 3 + \ldots + n$ is $\frac{n(n+1)}{2}$.
Can the total be exactly 60?
Use the formula to decide.

Answer _____

16

Jo solves $x^2 + 3x - 1 = 0$ and writes
$x = -3 \pm \frac{\sqrt{13}}{2}$, so $x = -1.20$ or -4.80.
Explain her mistake. Then find the
right answers to 2 decimal places.

Answer _____