

The Quadratic Formula

For AQA GCSE Mathematics (8300) • Higher tier

Name _____

Total marks: **28**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

- 1** Solve $x^2 + 4x - 7 = 0$
Give your answers to 2 decimal places.

[3 marks]

Answer _____

- 2** Solve $2x^2 - 5x - 1 = 0$
Give your answers to 2 decimal places.

[3 marks]

Answer _____

- 3** Solve $x^2 - 6x + 4 = 0$
Give your answers in the form $a \pm \sqrt{b}$

[3 marks]

Answer _____

4 Here is an equation.

$$(x + 3)(2x - 1) = 4x + 2$$

- (a) Write the equation in the form $ax^2 + bx + c = 0$ where a , b and c are integers.

[2 marks]

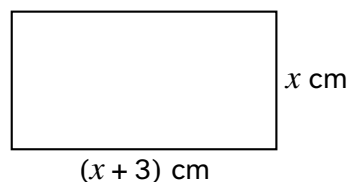
Answer _____

- (b) Hence, solve the equation.
Give your answers to 2 decimal places.

[2 marks]

Answer _____

5 The area of this rectangle is 20 cm^2 .



Not drawn accurately

- (a) Show that $x^2 + 3x - 20 = 0$

[2 marks]

- (b) Work out the width of the rectangle.
Give your answer to 2 decimal places.

[3 marks]

Answer _____ cm

- 6** Solve $3x^2 = 8x + 5$
Give your answers to 2 decimal places.

[4 marks]

Answer _____

- 7** Solve $\frac{2x}{x+3} + \frac{x-1}{2x} = 2$
Give your solutions to 2 decimal places.
You must show your working.

[6 marks]

Answer _____