

## Algebra - Quadratic Formula

Solve the equation  $2x^2 + 3x - 7 = 0$

Give your answers correct to 2 decimal places.

You **must** show your working. **(3)**

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The solutions of  $ax^2 + bx + c = 0$ , where  $a \neq 0$ , are given by

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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$$a = 2, \quad b = 3, \quad c = -7$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4 \times 2 \times -7}}{2 \times 2}$$

$$x = \frac{-3 \pm \sqrt{9 + 56}}{4}$$

$$x = \frac{-3 \pm \sqrt{65}}{4}$$

$$\text{Either } x = \frac{-3 + \sqrt{65}}{4} \quad \text{or} \quad x = \frac{-3 - \sqrt{65}}{4}$$

$$\underline{x = 1.27 \quad \text{or} \quad x = -2.77}$$