Quadratic Formula (H)

A collection of 9-1 Maths GCSE Sample and Specimen questions from AQA, OCR, Pearson-Edexcel and WJEC Eduqas.

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Total Marks:	

1. Use the formula method to solve the equation $2x^2 + 3x - 3 = 0$.

Give your solutions correct to two decimal places.

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

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-3 \pm \sqrt{9 - 4 \times 2 \times -3}}{4} = \frac{-3 \pm \sqrt{33}}{4}$$

$x = 0.69 \qquad x = -2.19$

[3]

2. Solve $x^2 - 5x + 3 = 0$

Give your solutions correct to 3 significant figures.

$a = 1 \quad b = -5 \quad c = 3$

$x = \frac{5 \pm \sqrt{25 - 4 \times 1 \times 3}}{2} \qquad x = \frac{5 \pm \sqrt{13}}{2}$

$x = 4.30$

$x = 0.697$

[3]

3. Use the quadratic formula to solve $5x^2 + 11x - 2 = 0$

Give your solutions to 2 decimal places.

$a = 5 \quad b = 11 \quad c = -2$

[3]

$$x = \frac{-11 \pm \sqrt{121 - 4 \times 5 \times -2}}{10}$$

$$x = \frac{-11 \pm \sqrt{161}}{10} \qquad x = 0.17$$

$x = -2.37$