

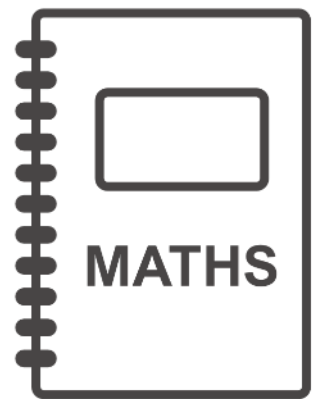
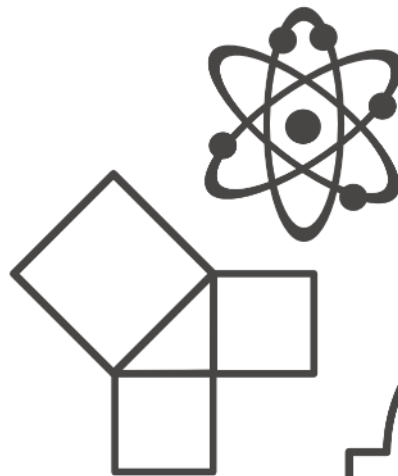
## GCSE TOPIC BOOKLET QUADRATIC FORMULA

### The Quadratic Equation

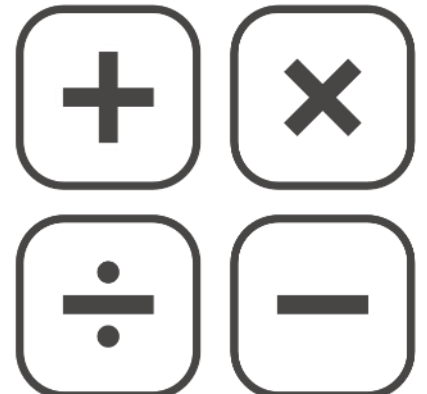
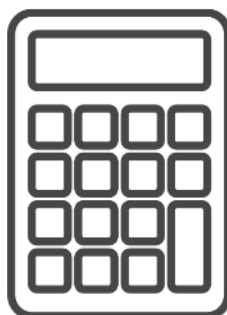
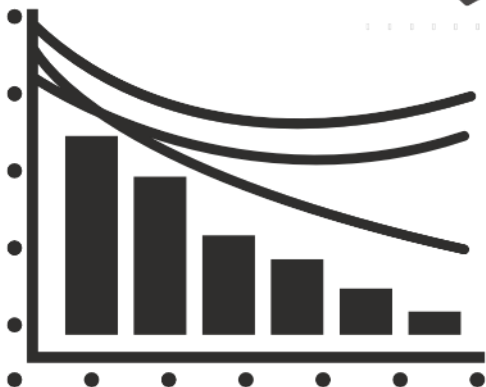
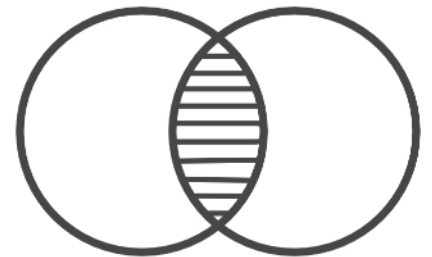
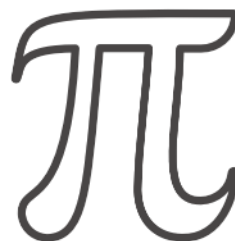
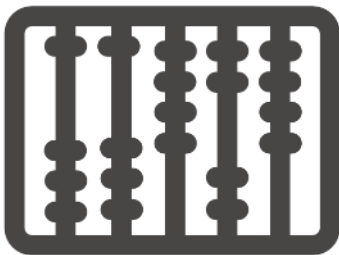
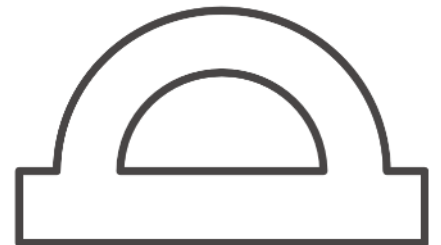
The solutions of  $ax^2 + bx + c = 0$

where  $a \neq 0$  are given by

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



$$a^2 = b^2 + c^2$$







5. Use the formula method to solve the equation  $2x^2 + 16x + 23 = 0$ , giving solutions correct to two decimal places.

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6. Use the formula method to solve the equation  $2x^2 + 42x - 57 = 0$ , giving solutions correct to two decimal places.

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7. Use the quadratic formula to solve  $21x^2 - 2x - 1 = 0$ , giving solutions correct to two decimal places.

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8. Use the formula method to solve the equation  $21x^2 + 17x - 250 = 0$ , giving solutions correct to two decimal places.

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9. Use the formula method to solve the equation  $3x^2 + 19x + 11 = 0$ , giving solutions correct to two decimal places.

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10. Use the formula method to solve the equation  $3x^2 + 8x + 1 = 0$ , giving solutions correct to two decimal places.

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