

Pearson Edexcel  
International GCSE Mathematics  
Formulae Booklet – Higher Tier

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Arithmetic series

$$\text{Sum to } n \text{ terms, } S_n = \frac{n}{2} 2a + (n - 1)d$$

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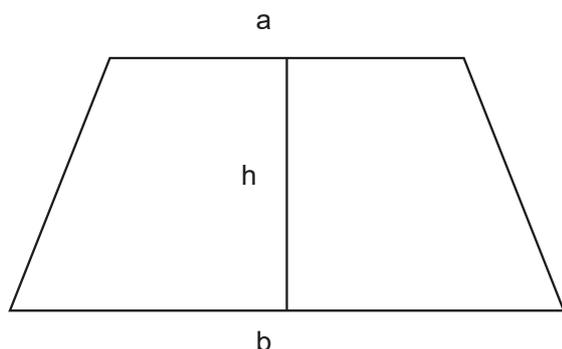
The Quadratic Equation

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

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

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$$\text{Area of trapezium} = \frac{1}{2} (a + b) h$$



Trigonometry  
In any triangle ABC

$$\text{Sine Rule } \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\text{Cosine Rule } a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{Area of triangle} = \frac{1}{2} ab \sin C$$

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No diagrams for 3D shapes

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$$\text{Volume of cone} = \frac{1}{3}\pi r^2 h$$

$$\text{Curved surface area of cone} = \pi r l$$

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Volume of prism = area of cross section  $\times$  length

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$$\text{Volume of cylinder} = \pi r^2 h$$

$$\text{Curved surface area of cylinder} = 2\pi r h$$

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$$\text{Volume of sphere} = \frac{4}{3}\pi r^3$$

$$\text{Surface area of sphere} = 4\pi r^2$$

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