

# MME Revise

## International GCSE Mathematics Formulae sheet – Higher Tier

### Arithmetic series

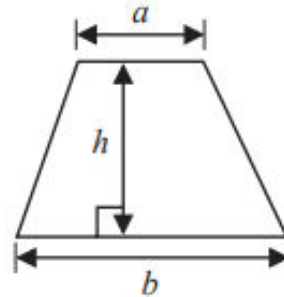
Sum to  $n$  terms,  $S_n = \frac{n}{2} [2a + (n-1)d]$

### The quadratic equation

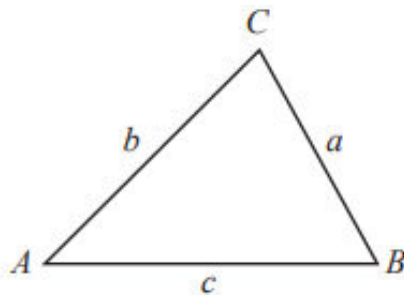
The solutions of  $ax^2 + bx + c = 0$  where  $a \neq 0$  are given by:

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

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



### Trigonometry



In any triangle  $ABC$

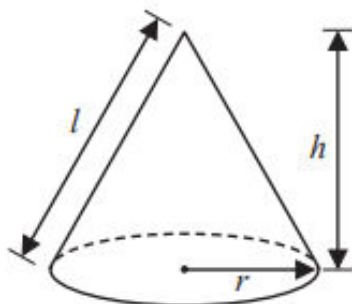
Sine Rule  $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

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

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

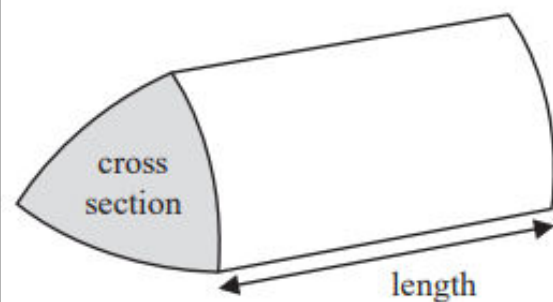
Volume of cone =  $\frac{1}{3}\pi r^2 h$

Curved surface area of cone =  $\pi r l$



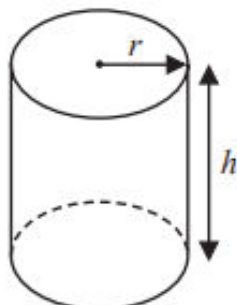
Volume of prism

= area of cross section  $\times$  length



Volume of cylinder =  $\pi r^2 h$

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



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

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

