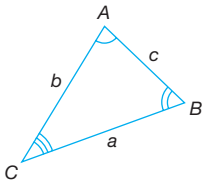


SOLUTION OF TRIANGLES

Sine rule



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

or

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

Cosine rule

$$a^2 = b^2 + c^2 - 2ab \cos A$$

$$b^2 = a^2 + c^2 - 2ac \cos B$$

$$c^2 = a^2 + b^2 - 2ab \cos C$$

Area of a triangle

Area of $\triangle ABC$

$$= \frac{1}{2} ab \sin C$$

$$= \frac{1}{2} bc \sin A$$

$$= \frac{1}{2} ac \sin B$$

or

Heron's Formula

Area of $\triangle ABC$

$$= \sqrt{s(s-a)(s-b)(s-c)}$$

such that

$$s = \frac{a+b+c}{2}$$

Application of sine rule, cosine rule
and area of a triangle

Involving three dimensional solid