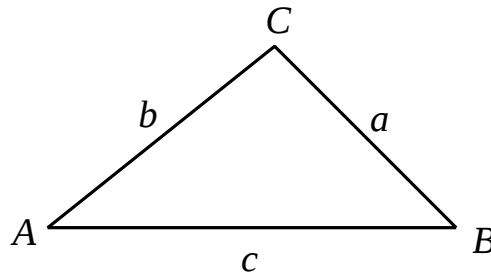


Trigonometry

Non-Right Angled Triangles



The Sine Rule

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

Known : One side length & two (and $\therefore$ three) angles

Seeking : Any side length

The Upside Down Sine Rule

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

Known : Two side lengths & an excluded angle

Seeking : The other excluded angle

The Cosine Rule

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

Known : Two side lengths & the included angle

Seeking : The third side length

The Reversed Cosine Rule

$$\cos A = \frac{b^2 + c^2 - a^2}{2bc}$$

Known : Three side lengths

Seeking : Any angle

Useful Area of a Triangle Formula

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