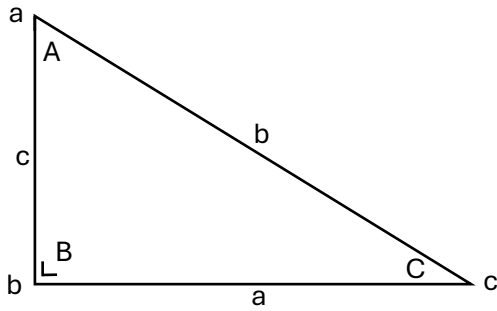


Right Angled Triangles



$ab \perp bc$ (one 90° angle)

Pythagoras' Theorem

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

SOHCAHTOA

$$\sin A = \frac{\text{opposite}}{\text{hypotenuse}}$$

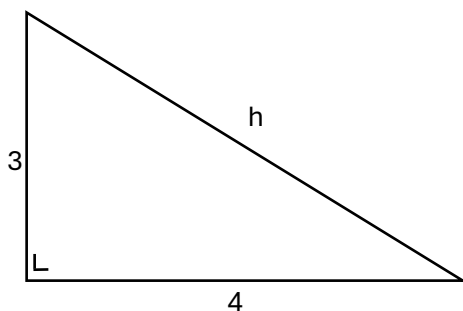
$$\cos A = \frac{\text{adjacent}}{\text{hypotenuse}}$$

$$\tan A = \frac{\text{opposite}}{\text{adjacent}}$$

Area of Triangle

$$\text{Area} = \frac{1}{2} \text{base} \times \text{perpendicular height}$$

Example



$$h = ?$$

$$h^2 = 3^2 + 4^2$$

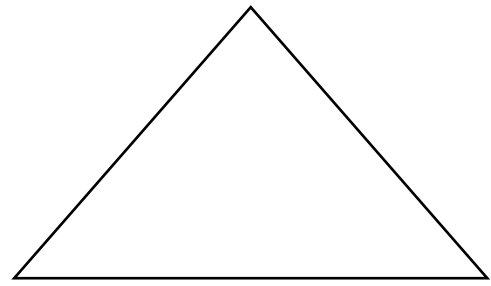
$$h^2 = 9 + 16$$

$$h^2 = 25$$

$$h = \sqrt{25}$$

$$h = 5$$

Non-Right Angled Triangles



(no 90° angle)

Sine Rule

If you are looking for the length of a side

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

If you are looking for the size of an angle

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

Cosine Rule

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

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

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

Area of Triangle

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