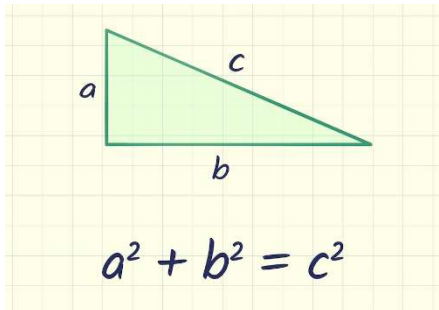


Maths – Year 10 Higher – Unit 4

Pythagoras' Theorem

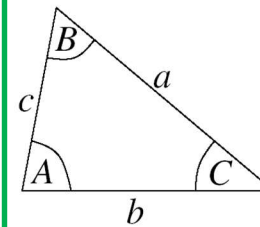
- 1) Right angle triangle
- 2) When you know 2 side lengths and need to know the third side



	0°	30°	45°	60°	90°
sin	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0
tan	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	Undefined

Sine Rule

- 1) Not a right angle triangle
- 2) When you have 2 angles and 1 side and need to find the other side
- 3) Or, when you have 2 sides and 1 angles and need to find the other angle



Sine Rule

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

(for finding sides) (for finding angles)

Cosine Rule

$$a^2 = b^2 + c^2 - 2bc \cos(A) \quad \text{or} \quad \cos(A) = \frac{b^2 + c^2 - a^2}{2bc}$$

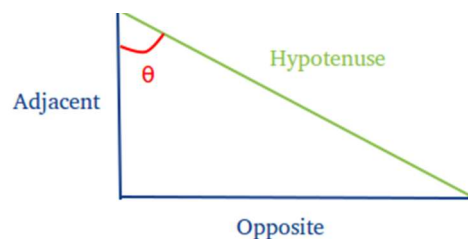
(for finding sides) (for finding angles)

Cosine Rule

- 1) Not a right angle triangle
- 2) When you have 1 angle, 2 sides and need to find the third side
- 3) Or, when you have 3 sides and need to find the angle.
- 4) Label the largest angle A

SOH CAH TOA

- 1) Right angle triangle
- 2) When you know 2 side lengths and need to know the angle
- 3) Or, when you know an angle and a side and need to find the other side length

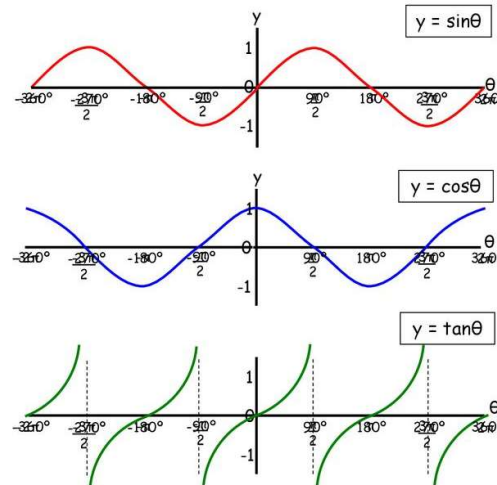


S OH C AH T OA

↓ ↓ ↓ ↓ ↓

$$\text{Sine}(\theta) = \frac{\text{opp}}{\text{hyp}} \quad \text{Cosine}(\theta) = \frac{\text{adj}}{\text{hyp}} \quad \text{Tangent}(\theta) = \frac{\text{opp}}{\text{adj}}$$

Trig Graphs



Area of a non-right angled triangle

- 1) Label the largest angle C

