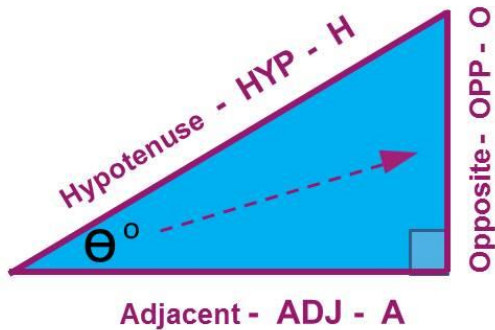


Trig Ratios – SOH CAH TOA



Name	Ratio	Expression
Sine	O / H	$\text{Sin}\theta$
Cosine	A / H	$\text{Cos}\theta$
Tangent	O / A	$\text{Tan}\theta$

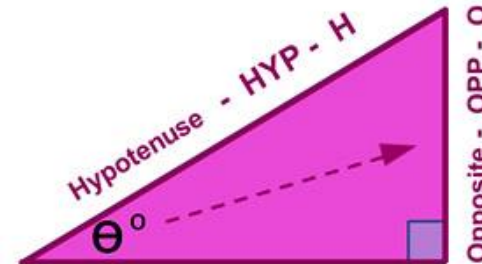
We use "SOH-CAH-TOA" to help us remember the Ratios

SOH is short for **Sine** = Opposite / Hypotenuse = O / H

CAH is short for **Cosine** = Adjacent / Hypotenuse = A / H

TOA is short for **Tangent** = Opposite / Adjacent = O / A

Sine Ratio – All Formulas



$$\text{Sin } \theta = \frac{\text{OPP}}{\text{HYP}}$$

$$\text{OPP} = \text{HYP} \times \text{Sin}\theta$$

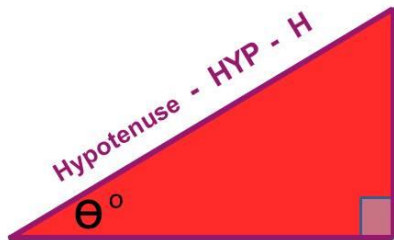
$$\text{HYP} = \frac{\text{OPP}}{\text{Sin}\theta}$$

These are the four formulas for working with Sine Triangles.

We also use the special "Sin" and "Sin⁻¹" calculator buttons when solving Sine Triangles.

$$\theta = \text{Sin}^{-1} \frac{\text{OPP}}{\text{HYP}}$$

Cosine Ratio – All Formulas



$$\text{Cos } \theta = \frac{\text{ADJ}}{\text{HYP}}$$

$$\text{ADJ} = \text{HYP} \times \text{Cos}\theta$$

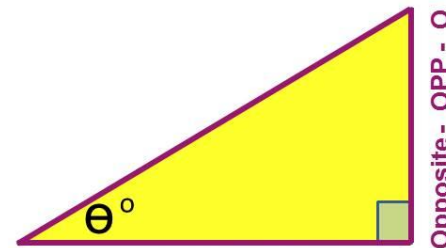
$$\text{HYP} = \frac{\text{ADJ}}{\text{Cos}\theta}$$

These are the four formulas for working with Cosine Triangles.

We also use the special "Cos" and "Cos⁻¹" calculator buttons when solving Cosine Triangles.

$$\theta = \text{Cos}^{-1} \frac{\text{ADJ}}{\text{HYP}}$$

Tangent Ratio – All Formulas



$$\text{Tan } \theta = \frac{\text{OPP}}{\text{ADJ}}$$

$$\text{OPP} = \text{ADJ} \times \text{Tan}\theta$$

$$\text{ADJ} = \frac{\text{OPP}}{\text{Tan}\theta}$$

These are the four formulas for working with Tangent Triangles.

We also use the special "Tan" and "Tan⁻¹" calculator buttons when solving Tangent Triangles.

$$\theta = \text{Tan}^{-1} \frac{\text{OPP}}{\text{ADJ}}$$