

TrigFunctions using SOHCAHTOA

SOH. CAH. TOA

Sine= opp/hyp. Cos= adj/hypo. Tangent= opp/adj

SINE OF ANGLE = $\sin \theta = \text{OPP/HYP}$

IN order to find the sine of angle, you must know the **lengths of the opposite side & the hypotenus**. If asked to find angle with little information for instance, find the sin of angle F in the figure below.

Image

Note:

- ★ the capital letters are the angles, wherever they are facing are the sides denoted in small letters.
- ★ Where the right angle (angle 90°) is facing is the **hypotenuse**
- ★ Where ever the angle you are dealing with is facing is the **opposite**, while the remaining inside is **adjacent**.

Now looking for the sing

Using SOH CAH TOA

Since hyp= 14, and we are looking for sinf

$\sin F = \text{OPP/ hyp}$, but opp= ?

Applying Pythagora's theorem to find 'f'=
opp

$r^2 = f^2 + k^2$ (Pythagoras theorem)

$$14^2 = f^2 + 7^2$$

$$f^2 = 196 - 49$$

$$f^2 = 147, f = \sqrt{147}, f = 7\sqrt{49 \times 3} = 7\sqrt{3}$$

Since $f = 7\sqrt{3}$, now $\sin f = 7\sqrt{3}/14$

$$\sin f = \sqrt{3}/2$$

