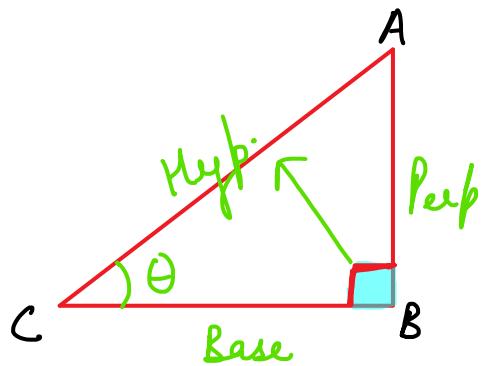


8 Trigonometry

Trigonometry

6 Trigonometric Ratios :-

\sin	\cos	\tan
P	B	P
H	H	B
Cosec	Sec	Cot



Sine $\rightarrow \sin \theta = \frac{P}{H}$

Cosine $\rightarrow \cos \theta = \frac{B}{H}$

Tangent $\rightarrow \tan \theta = \frac{P}{B}$

Cosecant $\rightarrow \operatorname{cosec} \theta = \frac{H}{P}$

Secant $\rightarrow \sec \theta = \frac{H}{B}$

Cotangent $\rightarrow \cot \theta = \frac{B}{P}$

3 Trigonometric Identities :-

$$1.) \quad \sin^2 \theta + \cos^2 \theta = 1$$

$$2.) \quad 1 + \tan^2 \theta = \sec^2 \theta$$

$$3.) \quad 1 + \cot^2 \theta = \operatorname{cosec}^2 \theta$$

Complementary angles :- Sum 90°

$$\sin(90^\circ - \theta) = \cos \theta$$

$$\cos(90^\circ - \theta) = \sin \theta$$

$$\tan(90^\circ - \theta) = \cot \theta$$

$$\cot(90^\circ - \theta) = \tan \theta$$

$$\sec(90^\circ - \theta) = \cosec \theta$$

$$\cosec(90^\circ - \theta) = \sec \theta$$

$$\sqrt{\frac{0}{4}} = \sqrt{\frac{1}{4}}$$

$$\sqrt{\frac{2}{4}} = \sqrt{\frac{1}{2}}$$

$$\sqrt{\frac{3}{4}}$$

$$\sqrt{\frac{4}{4}} = 1$$

$$\sqrt{\frac{0}{4}}$$

$$\sqrt{\frac{1}{4}}$$

$$\sqrt{\frac{2}{4}}$$

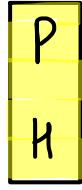
$$\sqrt{\frac{3}{4}}$$

$$\sqrt{\frac{4}{4}}$$

	0°	30°	45°	60°	90°
\sin	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
\cos	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
\tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	N.D.
\cosec	N.D.	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
\sec	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	N.D.
\cot	N.D.	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0

$$\frac{O}{I} = \boxed{O}$$

$$\frac{I}{O} = \boxed{N \cdot D}$$

Sin Cos Tan

 Cosec Sec Cot

$$\tan\theta = \frac{1}{\cot\theta}$$

$$\sin\theta = \frac{1}{\csc\theta}$$

$$\frac{1}{\tan\theta} = \cot\theta$$

$$\frac{1}{\sin\theta} = \csc\theta$$

$$\sin\theta \times \csc\theta = 1$$

$$\cos\theta = \frac{1}{\sec\theta}$$

$$\cos\theta \times \sec\theta = 1$$

$$\frac{1}{\cos\theta} = \sec\theta$$

$$\tan\theta \times \cot\theta = 1$$