Chapter: - 8
INTRODUCTION TO TRIGONOMETRY
Class: - 10th

The trigonometric ratios: -

1. $\sin\theta = \frac{Perpendicular}{Hypetenuse} = \frac{BC}{Ac}$

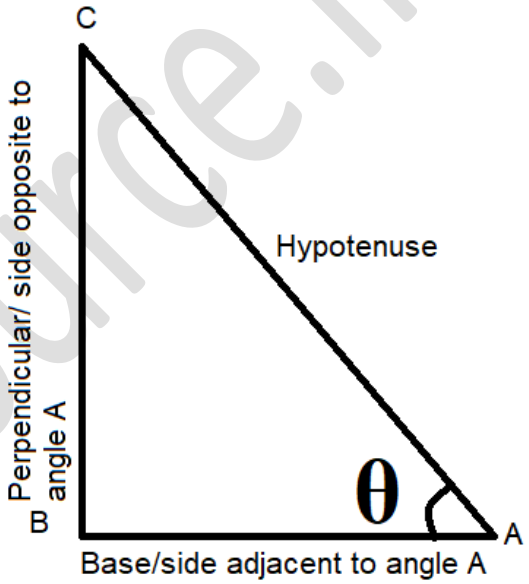
2. $\cos\theta = \frac{base}{Hypotenuse} = \frac{AB}{AC}$

3. $\tan\theta = \frac{perpendicular}{base} = \frac{BC}{AB}$

4. $\cot\theta = \frac{base}{Perpendicular} = \frac{AB}{BC}$

5. $\sec\theta = \frac{Hypotenuse}{base} = \frac{AC}{AB}$

6. $\text{Cosec}\theta = \frac{Hypotenuse}{Perpendicular} = \frac{AC}{BC}$



Sin Cos Tan

P B P

P B P H H B

Pandit Badri Prasad Har Har Bole

H H B

cosec Sec Cot

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	0	30	45	60	90
	0	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
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	√3	not define
Cot	Not define	√3	1	$\frac{1}{\sqrt{3}}$	0
Sec	1	$\frac{2}{\sqrt{3}}$	√2	2	Not define
Cosec	Not define	2	√2	$\frac{2}{\sqrt{3}}$	1

a) $Cos^2x+Sin^2x = 1$

b) $1 + Tan^2x = Sec^2x$

c) $1 + Cot^2x = Cosec^2x$

d) $\sin(-x) = -\sin x$

e) $\cos(-x) = \cos x$

f) $\sin(90° - A) = \cos A$

g) $\cos(90° - A) = \sin A$

h) $\tan(90° - A) = \cot A$

i) $\cot(90° - A) = \tan A$

j) $\sec(90° - A) = \text{cosec } A$

k) $\text{cosec}(90° - A) = \sec A$