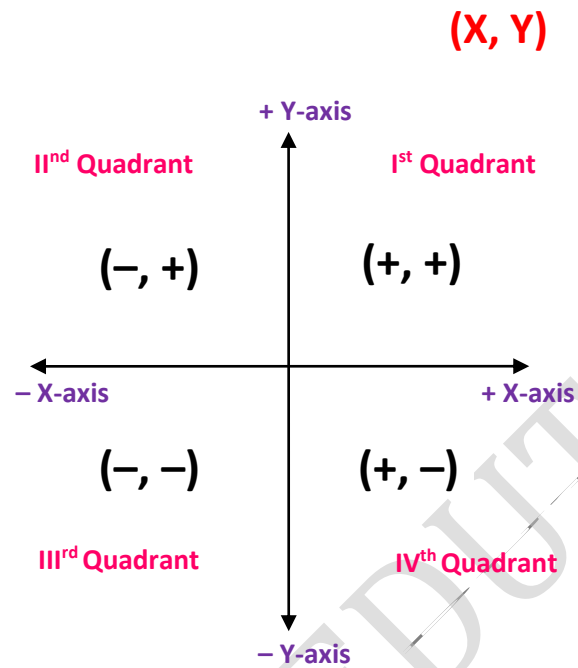


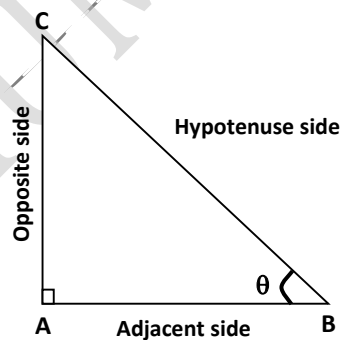
## Basic Concepts

### Co-ordinate Geometry

Co-ordinates and signs



### Trigonometry:-



sine	→	$\sin\theta$
cosine	→	$\cos\theta$
tangent	→	$\tan\theta$
cotangent	→	$\cot\theta$
secant	→	$\sec\theta$
cosecant	→	$\operatorname{cosec}\theta$

$$1. \sin\theta = \frac{\text{Opposite side}}{\text{Hypotenuse side}}$$

$$\sin\theta = \frac{AC}{BC} = \frac{O}{H}$$

$$2. \cos\theta = \frac{\text{Adjacent side}}{\text{Hypotenuse side}}$$

$$\cos\theta = \frac{AB}{BC} = \frac{A}{H}$$

$$3. \tan\theta = \frac{\text{Opposite side}}{\text{Adjacent side}}$$

$$\tan\theta = \frac{AC}{AB} = \frac{O}{A}$$

### Trick to Remember

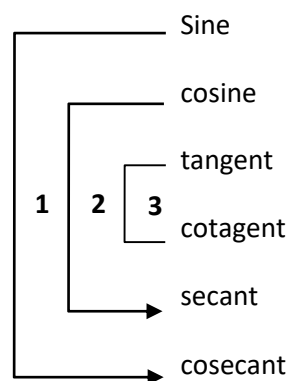
<b>P</b>	<b>B</b>	<b>P</b>
<b>H</b>	<b>H</b>	<b>B</b>

**P** – Perpendicular

**B** – Base

**H** – Hypotenuse

**“Pandit Badri Prasad Har Har Bole”**



$$\sin\theta = \frac{1}{\text{cosec}\theta}$$

$$\text{cosec}\theta = \frac{1}{\sin\theta}$$

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

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

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

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

$$\tan\theta = \frac{\sin\theta}{\cos\theta}$$

$$\cot\theta = \frac{\cos\theta}{\sin\theta}$$

	0°	30°	45°	60°	90°	
sinθ	0	1/2	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1	$\sin\theta = \frac{1}{\operatorname{cosec}\theta}$
cosθ	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0	$\cos\theta = \frac{1}{\sec\theta}$
tanθ	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	N.D	$\tan\theta = \frac{\sin\theta}{\cos\theta}$
cotθ	N. D.	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0	$\cot\theta = \frac{\cos\theta}{\sin\theta}$
secθ	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	N.D	$\sec\theta = \frac{1}{\cos\theta}$
cosecθ	N. D.	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1	$\operatorname{cosec}\theta = \frac{1}{\sin\theta}$

**N.D. → Not Defined**