Trigonometrical Ratios in terms of Each other.

	sinθ	**cosθ**	**tanθ**	**cotθ**	**secθ**	**cosecθ**
sinθ	sinθ	$\sqrt{1-\cos^2\theta}$	$\frac{\tan\theta}{\sqrt{1+\tan^2\theta}}$	$\frac{1}{\sqrt{1+\cot^2\theta}}$	$\frac{\sqrt{\sec^2\theta-1}}{\sec\theta}$	$\frac{1}{\operatorname{cosec}\theta}$
cosθ	$\sqrt{1-\sin^2\theta}$	cosθ	$\frac{1}{\sqrt{1+\tan^2\theta}}$	$\frac{\cot\theta}{\sqrt{1+\cot^2\theta}}$	$\frac{1}{\sec\theta}$	$\frac{\sqrt{\operatorname{cosec}^2\theta-1}}{\operatorname{cosec}\theta}$
tanθ	$\frac{\sin\theta}{\sqrt{1-\sin^2\theta}}$	$\frac{\sqrt{1-\cos^2\theta}}{\cos\theta}$	tanθ	$\frac{1}{\cot\theta}$	$\sqrt{\sec^2\theta-1}$	$\frac{1}{\sqrt{\operatorname{cosec}^2\theta-1}}$
cot θ	$\frac{\sqrt{1-\sin^2\theta}}{\sin\theta}$	$\frac{\cos\theta}{\sqrt{1-\cos^2\theta}}$	$\frac{1}{\tan\theta}$	cotθ	$\frac{1}{\sqrt{\sec^2\theta-1}}$	$\sqrt{\operatorname{cosec}^2\theta-1}$
secθ	$\frac{1}{\sqrt{1-\sin^2\theta}}$	$\frac{1}{\cos\theta}$	$\sqrt{1+\tan^2\theta}$	$\frac{\sqrt{1+\cot^2\theta}}{\cot\theta}$	secθ	$\frac{\operatorname{cosec}\theta}{\sqrt{\operatorname{cosec}^2\theta-1}}$
cosecθ	$\frac{1}{\sin\theta}$	$\frac{1}{\sqrt{1-\cos^2\theta}}$	$\frac{\sqrt{1+\tan^2\theta}}{\tan\theta}$	$\sqrt{1+\cot^2\theta}$	$\frac{\sec\theta}{\sqrt{\sec^2\theta-1}}$	cosecθ

Important Tips

☞ Values for some standard angles

$\sin 15^o = \cos 75^o = \frac{\sqrt{3}-1}{2\sqrt{2}}$; $\cos 15^o = \sin 75^o = \frac{\sqrt{3}+1}{2\sqrt{2}}$; $\tan 15^o = \cot 75^o = 2-\sqrt{3}$;

$\sin 18^o = \cos 72^o = \frac{\sqrt{5}-1}{4}$; $\cos 36^o = \sin 54^o = \frac{\sqrt{5}+1}{4}$; $\tan 75^o = \cot 15^o = 2+\sqrt{3}$

$\sin 22\frac{1}{2}^o = \cos 67\frac{1}{2}^o = \frac{\sqrt{2-\sqrt{2}}}{2}$, $\cos 22\frac{1}{2}^o = \sin 67\frac{1}{2}^o = \frac{\sqrt{2+\sqrt{2}}}{2}$; $\cot 22\frac{1}{2}^o = \tan 67\frac{1}{2}^o = \sqrt{2}+1$

$\tan 22\frac{1}{2}^o = \cot 67\frac{1}{2}^o = \sqrt{2}-1$