Sumedh

- **Trigo**

① $\sin^2\theta + \cos^2\theta = 1$

$\sec^2\theta - \tan^2\theta = 1$

$\operatorname{cosec}^2\theta - \cot^2\theta = 1$

② $\sin 2\theta = 2\sin\theta \cdot \cos\theta$

$= \dfrac{2\tan\theta}{1+\tan^2\theta}$

③ $\cos 2\theta = \cos^2\theta - \sin^2\theta$

$= 2\cos^2\theta - 1$

$= 1 - 2\sin^2\theta$

$= \dfrac{1-\tan^2\theta}{1+\tan^2\theta}$

④ $\sin(A+B) = \sin A\cos B + \cos A\sin B$

$\sin(A-B) = \sin A\cos B - \cos A\sin B$

$\cos(A+B) = \cos A\cos B - \sin A\sin B$

$\cos(A-B) = \cos A\cos B + \sin A\sin B$

$\tan(A+B) = \dfrac{\tan A + \tan B}{1-\tan A\cdot\tan B}$

$\tan(A-B) = \dfrac{\tan A - \tan B}{1+\tan A\cdot\tan B}$

- **Integration**

1. $\int \frac{1}{x} \cdot dx = \log x$

2. $\int e^x \cdot dx = e^x$

3. $\int \sin x \cdot dx = -\cos x$

4. $\int \cos x \cdot dx = \sin x$

5. $\int \sec^2 x \cdot dx = \tan x$

6. $\int \operatorname{cosec}^2 x \cdot dx = -\cot x$

7. $\int \sec x \cdot \tan x \cdot dx = \sec x$

8. $\int \operatorname{cosec} x \cdot \cot x \cdot dx = -\operatorname{cosec} x$

9. $\int \tan x \cdot dx = \log |\sec x|$

10. $\int \cot x \cdot dx = \log |\sin x|$

11. $\int \sec x \cdot dx = \log |\sec x + \tan x|$

12. $\int \operatorname{cosec} x \cdot dx = \log |\operatorname{cosec} x - \cot x|$

Angle (degrees)	**0**	**30**	**45**	**60**	**90**	**120**	**135**	**150**	**180**	**210**	**225**	**240**	**270**	**300**	**315**	**330**	**360**
Angle (Radians)	**0**	$\frac{\pi}{6}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$	$\frac{2\pi}{3}$	$\frac{3\pi}{4}$	$\frac{5\pi}{6}$	π	$\frac{7\pi}{6}$	$\frac{5\pi}{4}$	$\frac{4\pi}{3}$	$\frac{3\pi}{2}$	$\frac{5\pi}{3}$	$\frac{7\pi}{4}$	$\frac{11\pi}{6}$	2π
sin	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{1}{\sqrt{2}}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{\sqrt{2}}$	$-\frac{1}{2}$	0
cos	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{1}{\sqrt{2}}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{\sqrt{2}}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
tan	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	UD	$-\sqrt{3}$	-1	$-\frac{1}{\sqrt{3}}$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	UD	$-\sqrt{3}$	-1	$-\frac{1}{\sqrt{3}}$	0
csc	UD	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	UD	-2	$-\sqrt{2}$	$-\frac{2}{\sqrt{3}}$	-1	$-\frac{2}{\sqrt{3}}$	$-\sqrt{2}$	-2	UD
sec	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	UD	-2	$-\sqrt{2}$	$-\frac{2}{\sqrt{3}}$	-1	$-\frac{2}{\sqrt{3}}$	$-\sqrt{2}$	-2	UD	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
cot	UD	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0	$-\frac{1}{\sqrt{3}}$	-1	$-\sqrt{3}$	UD	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0	$-\frac{1}{\sqrt{3}}$	-1	$-\sqrt{3}$	UD

UD -> Undefined