

Relembra!

## FUNÇÕES TRIGONOMÉTRICAS

	0	30° $\pi/6$	45° $\pi/4$	60° $\pi/3$	90° $\pi/2$
sen	0	1/2	$\sqrt{2}/2$	$\sqrt{3}/2$	1
cos	1	$\sqrt{3}/2$	$\sqrt{2}/2$	1/2	0
tg	0	$\sqrt{3}/3$	1	$\sqrt{3}$	$\infty$

$$\cos(-\alpha) = \cos \alpha$$
$$\sin(-\alpha) = -\sin \alpha$$

$$\sin^2 x + \cos^2 x = 1$$

$$\cos^2 x = \frac{1 + \cos 2x}{2}$$

$$\sin^2 x = \frac{1 - \cos 2x}{2}$$

$$\operatorname{tg} x = \frac{\sin x}{\cos x}$$

$$\operatorname{cotg} x = \frac{1}{\operatorname{tg} x} = \frac{\cos x}{\sin x}$$

$$\operatorname{tg}^2 x + 1 = \frac{1}{\cos^2 x}$$

$$\operatorname{cotg}^2 x + 1 = \frac{1}{\sin^2 x}$$

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

$$\operatorname{cosec} x = \frac{1}{\sin x}$$

$$\cos(\beta + \alpha) = \cos \alpha \cdot \cos \beta - \sin \alpha \cdot \sin \beta$$

$$\sin(\beta + \alpha) = \cos \alpha \cdot \sin \beta + \sin \alpha \cdot \cos \beta$$

$$\operatorname{tg}(\beta + \alpha) = \frac{\operatorname{tg} \beta + \operatorname{tg} \alpha}{1 - \operatorname{tg} \beta \cdot \operatorname{tg} \alpha}$$

$$\sin(2\alpha) = 2 \sin \alpha \cdot \cos \alpha$$

$$\cos(2\alpha) = \cos^2 \alpha - \sin^2 \alpha$$

$$\operatorname{tg}(2\alpha) = \frac{2 \cdot \operatorname{tg} \alpha}{1 - \operatorname{tg}^2 \alpha}$$

$$\sin(\alpha/2) = \pm \sqrt{\frac{1 - \cos \alpha}{2}}$$

$$\cos(\alpha/2) = \pm \sqrt{\frac{1 + \cos \alpha}{2}}$$

$$\operatorname{tg}(\alpha/2) = \pm \sqrt{\frac{1 - \cos \alpha}{1 + \cos \alpha}}$$