

سینوسی

و نام و نام خانوادگی نوشته شده است!

$$\begin{aligned}\tan(\pi - \alpha) &= \frac{\tan \pi - \tan \alpha}{1 + \tan \pi \tan \alpha} = -\tan \alpha \\ \tan(\pi + \alpha) &= \frac{\tan \pi + \tan \alpha}{1 - \tan \pi \tan \alpha} = \tan \alpha \\ \tan(\pi - \alpha) &= \frac{\tan \pi - \tan \alpha}{1 + \tan \pi \tan \alpha} = -\tan \alpha \\ \tan(\pi + \alpha) &= \tan \alpha\end{aligned}$$

$$\frac{-\tan \alpha + \tan \alpha}{-\tan \alpha - \tan \alpha} = \frac{\tan \alpha}{-\tan \alpha} = -1$$

✓

$$\begin{aligned}\tan 45^\circ &= \cot 45^\circ \\ \tan \frac{\pi}{4} &= \tan 45^\circ = 1 \\ \tan 135^\circ &= \tan 45^\circ \\ \tan 135^\circ &= \tan(45^\circ + 90^\circ) = \tan 45^\circ = \cot 45^\circ\end{aligned}$$

$$\frac{\frac{1}{a} + \frac{1}{a}}{-\frac{1}{a} + \frac{1}{a}} = \frac{\frac{2}{a}}{0} = \infty$$

✓

$$\frac{\sin^2 \theta + \cos^2 \theta + \sin^2 \theta - \cos^2 \theta}{\sin^2 \theta - \cos^2 \theta} = \frac{2 \sin^2 \theta}{\sin^2 \theta - \cos^2 \theta} = 2$$

$$\tan^2 \theta = \frac{\sin^2 \theta}{\cos^2 \theta} = \frac{\frac{a}{4}}{\frac{1}{4}} = a$$

$$\begin{aligned}\sin^2 \theta &= \frac{a}{4} \\ \cos^2 \theta &= \frac{1}{4}\end{aligned}$$

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

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

$$\tan^2 \theta = \frac{\frac{a}{4}}{\frac{1}{4}} = \frac{a}{1} = a$$

$$\begin{aligned}-\cos^2 \theta &= \cos^2 \theta - 1 \\ \cos^2 \theta &= \frac{1}{2}\end{aligned}$$

$$\sin^2 \theta = \frac{a}{4}$$

$$\cos^2 \alpha = \frac{1 + \cos 2\alpha}{2} = \cos^2 \frac{\pi}{4} = \frac{1 + \cos \frac{\pi}{2}}{2} = \frac{1 + 0}{2} = \frac{1}{2}$$

$$\cos^2 \frac{\pi}{4} = \frac{1 + \sqrt{2}}{2} \quad \cos^2 \frac{\pi}{4} = \frac{\sqrt{2} + \sqrt{2}}{2}$$

$$\sin^2 \alpha = \frac{1 - \cos 2\alpha}{2} \quad \sin^2 \frac{\pi}{4} = \frac{1 - \cos \frac{\pi}{2}}{2} = \frac{1 - 0}{2} = \frac{1}{2}$$

$$\sin^2 \frac{\pi}{4} = \frac{1 - \sqrt{2}}{2}$$

$$\sin^2 \frac{\pi}{4} = \frac{\sqrt{2} - \sqrt{2}}{2}$$