

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

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

$$\frac{1}{x-a} = \frac{1}{a}$$

$$\frac{1}{x-a} = \frac{1}{a} \Rightarrow x-a = a \Rightarrow x = 2a$$

$$A = -\frac{1}{x^2+1}$$

$$\frac{1}{a} = \frac{1}{-a} = -\frac{1}{a}$$

$$\tan \theta = \frac{1}{a}$$

$$\tan \theta = -\frac{1}{a}$$

$$\tan \theta = \frac{1}{a}$$

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

$$\frac{(\sin x + \cos x)^2 + (\sin x - \cos x)^2}{(\sin x - \cos x)(\sin x + \cos x)} = \frac{2}{\sin^2 x - \cos^2 x}$$

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

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

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

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

$$\sin \theta = \pm \sqrt{1 - \cos^2 \theta}$$

$$\cos \theta = \pm \sqrt{1 - \sin^2 \theta}$$

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

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

$$A = 30^\circ$$

(2)

$$\frac{BC}{\sin 30^\circ} = \frac{AC}{\sin B} = \frac{12}{\frac{1}{2}} = \frac{12\sqrt{2}}{\sin B} \rightarrow \sin B = \frac{\sqrt{2}}{2} \rightarrow B = 45^\circ$$

$$C = 105^\circ$$

$$B = \frac{\pi}{4}$$

$$C = \frac{5\pi}{12}$$