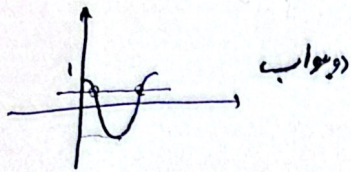


$$1 \cos x = \tan x + 1 \rightarrow 1 \cos x = \frac{1}{\cos x} \rightarrow 1 \cos^2 x = 1 \rightarrow \cos^2 x = \frac{1}{1} \rightarrow \cos x = \frac{1}{1}$$



$$0(1 - \cos^2 x) + 2(4 \cos^3 x - 3 \cos x) = -2 \rightarrow 0 - 0 \cos^2 x + 1 \cos^3 x - 4 \cos x = -2$$

$$1 \cos^3 x - 4 \cos x + 2 = 0 \xrightarrow{\cos x = t} 1t^3 - 4t + 2 = 0 \xrightarrow{t=1} 1 - 4 + 2 = -1 \neq 0$$

$$1t^3 - 4t + 2 = 0 \xrightarrow{t=-1} 1 - 4 + 2 = -1 \neq 0 \xrightarrow{t=1/2} 1/8 - 2 + 2 = 1/8 \neq 0$$

$$1t^3 - 4t + 2 = 0 \xrightarrow{t=1/2} 1/8 - 2 + 2 = 1/8 \neq 0 \xrightarrow{t=-1/2} -1/8 + 2 + 2 = 3.875 \neq 0$$

$$2 \sin x (1 - \sin^2 x) + \sin x = 1 \rightarrow 2 \sin x - 2 \sin^3 x + \sin x = 1 \rightarrow$$

$$3 \sin x - 2 \sin^3 x = 1 \rightarrow \sin^3 x - 3 \sin x + 1 = 0 \rightarrow \sin x = 1 \rightarrow x = 2k\pi + \frac{\pi}{2}$$

$$x = \frac{2k\pi}{2} + \frac{\pi}{2} \rightarrow \begin{matrix} k=0 \rightarrow \frac{\pi}{2} \\ k=1 \rightarrow \frac{5\pi}{2} \\ k=2 \rightarrow \frac{9\pi}{2} \end{matrix}$$

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

$$\frac{\cos^2 x (-2 \sin^2 x + 1)}{-2 \sin^2 x \cos^4 x} = 0 \rightarrow \cos^2 x = 0 \rightarrow \cos x = 0$$

$$-2 \sin^2 x \cos^2 x + \cos^2 x = 0 \rightarrow \cos^2 x (-2 \sin^2 x + 1) = 0 \rightarrow \cos^2 x = 0 \rightarrow \cos x = 0 \rightarrow x = 2k\pi + \frac{\pi}{2}$$

$$\cos x \times \frac{\sqrt{2}}{2} - \sin x \times \frac{\sqrt{2}}{2} = \frac{1}{\sqrt{2}} \rightarrow \frac{\sqrt{2}}{2} (\cos x - \sin x) = \frac{1}{\sqrt{2}} \rightarrow \cos x - \sin x = \frac{1}{\sqrt{2}} \times \frac{\sqrt{2}}{\sqrt{2}} =$$

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

$$m \times \frac{\sqrt{2}}{2} - \sqrt{2} \times \frac{1}{\sqrt{2}} = \sqrt{2} \rightarrow m \times \frac{\sqrt{2}}{2} - \sqrt{2} = \sqrt{2}$$

$$\sqrt{2} \left(\frac{m}{2} - 1 \right) = \sqrt{2} \rightarrow \frac{m}{2} - 1 = 1 \rightarrow \frac{m}{2} = 2 \rightarrow m = 4$$

$$\sin\left(x + \frac{\pi}{4}\right) \cos\left(x + \frac{\pi}{4} - \frac{\pi}{4}\right) = 1 \rightarrow \sin x \cos\left(x - \frac{\pi}{4}\right) = \sin x \sin x = \sin^2 x = 1$$

$$\sin\left(x + \frac{\pi}{4}\right) = 1 \rightarrow x + \frac{\pi}{4} = 2K\pi + \frac{\pi}{4} \rightarrow x = 2K\pi \rightarrow \frac{\pi}{4},$$

$$\sin\left(x + \frac{\pi}{4}\right) = -1 \rightarrow x + \frac{\pi}{4} = 2K\pi - \frac{\pi}{4} \rightarrow x = 2K\pi - \frac{\pi}{2} \rightarrow \frac{3\pi}{4}$$

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$$\sqrt{2} \sin\left(x + \frac{\pi}{4}\right) = \sqrt{2} \rightarrow \sin\left(x + \frac{\pi}{4}\right) = \frac{\sqrt{2}}{\sqrt{2}} = \sin \frac{\pi}{4}$$

$$x + \frac{\pi}{4} = 2K\pi + \frac{\pi}{4} \rightarrow x = 2K\pi + \frac{\pi}{4} - \frac{\pi}{4} = 2K\pi \rightarrow \frac{\pi}{4}, \frac{5\pi}{4}$$

$$x + \frac{\pi}{4} = 2K\pi + \frac{3\pi}{4} \rightarrow x = 2K\pi + \frac{3\pi}{4} - \frac{\pi}{4} = 2K\pi + \frac{2\pi}{4} \rightarrow \frac{3\pi}{4}$$

$$\frac{\pi}{4} + \frac{3\pi}{4} + \frac{5\pi}{4} = \frac{9\pi}{4}$$

$$- \sqrt{2} \sin x \cos x = 1 \rightarrow - \sqrt{2} \sin x = 1 \rightarrow \sin x = \frac{-1}{\sqrt{2}} = \sin \frac{3\pi}{4}$$

$$x = 2K\pi - \frac{\pi}{4} \rightarrow x = K\pi - \frac{\pi}{4} \rightarrow \frac{11\pi}{4}, \frac{7\pi}{4}$$

$$x = 2K\pi + \frac{3\pi}{4} \rightarrow x = K\pi + \frac{3\pi}{4} \rightarrow \frac{5\pi}{4}, \frac{3\pi}{4}$$

$$\frac{11\pi}{4} + \frac{7\pi}{4} + \frac{5\pi}{4} + \frac{3\pi}{4} = \frac{26\pi}{4} = 13\pi$$

$$\sqrt{2} \cos^2 x \cdot \sqrt{2} \cos^2 x \cdot \sqrt{2} \cos^2 x = \frac{1}{\sqrt{2}} \rightarrow \sqrt{2} \cos^2 x \cos^2 x \cos^2 x = \frac{1}{\sqrt{2}} \rightarrow \cos^2 x \cos^2 x \cos^2 x = \frac{1}{2}$$

$$\frac{\sqrt{2} \sin x \cos x \cos x \cos x \cos x}{\sqrt{2} \sin x} = \frac{1}{\sqrt{2}} \rightarrow \frac{\sin x \cos^4 x}{\sin x} = \frac{1}{\sqrt{2}} \rightarrow \cos^4 x = \frac{1}{\sqrt{2}}$$

$$\sin 4x = \sin x \rightarrow 4x = 2K\pi + \pi - x \Rightarrow x = \frac{2K\pi + \pi}{5}, x = \frac{\pi}{5} (2K+1)$$

$$\cos x \cos x \cos x \cos x = \frac{1}{\sqrt{2}} \rightarrow \sin 4x = \sin x \rightarrow \sin x = \sin -4x \rightarrow x = 2K\pi - 4x \rightarrow x = \frac{2K\pi}{5}$$

$$\tan^2 x = \frac{1}{\tan x} = \cot x = \tan\left(\frac{\pi}{2} - x\right) \rightarrow x = K\pi + \frac{\pi}{2} - x$$

$$2x = K\pi + \frac{\pi}{2} \rightarrow x = \frac{K\pi}{2} + \frac{\pi}{4} \rightarrow \frac{9\pi}{4}, \frac{11\pi}{4}, \frac{13\pi}{4}, \frac{15\pi}{4}$$

$$(4\pi)$$