

ملینا لیا

$$\sin = -\frac{1}{2}$$

$$\text{ا) } \rightarrow 1 - r \sin^2 = r \sin - 1 \Rightarrow r \sin^2 + r \sin - 2 = 0 \quad \sin = \frac{1}{r} \checkmark$$

$$x = 2k\pi + \frac{\pi}{4} \Rightarrow x = 2k\pi + \frac{\pi}{4}$$

$$\cos k = \frac{1 + \cos 2k}{2}$$

$$\text{ب) } \rightarrow r \cos^2 x + \cos x - r = 0 \rightarrow \cos = 1 \rightarrow x = 2k\pi$$

$$\rightarrow \cos = -\frac{1}{r} \times$$

$$\text{پ) ا) } (\sin^2 + \cos^2)(\sin^2 - \cos^2) = \sin^2 x \rightarrow -\cos^2 x = \sin^2 x$$

$$\sin\left(\frac{\pi}{4} + r\right) = \sin x \rightarrow \text{① } x = 2k\pi + \frac{\pi}{4} + r \rightarrow k\pi + \frac{\pi}{4}$$

$$\rightarrow \text{② } x = 2k\pi + \pi - \frac{\pi}{4} - r \rightarrow \frac{k\pi}{2} - \frac{\pi}{4}$$

$$\text{ب) } r \cos^2 x + r \sin^2 = 1 \rightarrow 1 + \cos^2 x + \sin^2 x = 1 \rightarrow \cos^2 x = -\sin^2 x$$

$$\cos^2 x = \cos\left(\frac{\pi}{4} + r\right) \rightarrow x = 2k\pi + \frac{\pi}{4} + r \times$$

$$\rightarrow x = 2k\pi - \frac{\pi}{4} - r \rightarrow \frac{k\pi}{2} - \frac{\pi}{4}$$

$$\text{ر) ا) } \frac{\cos}{\sin} (r \cos + 1) = \frac{1}{\sin} \rightarrow r \cos^2 + \cos - 1 = 0 \rightarrow -1 \times$$

$$\rightarrow \frac{1}{r} \rightarrow 2k\pi \pm \frac{\pi}{r}$$

$$\text{ب) } r \sin^2 - r + \cos^2 - \sin^2 = 0 \rightarrow -\cos^2 (\cos^2 + \sin^2) = 0 \rightarrow \cos = 0 \rightarrow k\pi + \frac{\pi}{2}$$

$$\rightarrow \cos = -\sin \rightarrow k\pi - \frac{\pi}{4}$$

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

$$x = k\pi \pm \frac{\pi}{4}$$

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

$$\text{ب) } 2x - \frac{\pi}{4} = 2k\pi \pm \left(\frac{\pi}{2} + r\right) \rightarrow 2k\pi + \frac{\pi}{4} + \frac{\pi}{2} = 0 \times$$

$$2x - \frac{\pi}{4} = 2k\pi - \frac{\pi}{2} - r$$

$$x = 2k\pi - \frac{\pi}{4} - r \rightarrow x = \frac{k\pi}{2} - \frac{\pi}{4} - \frac{\pi}{4}$$

$$\text{د) } \frac{\sin^2 x - \sin^2 x}{\sin^2 x} = 1 \rightarrow \sin^2 x + \sin^2 x = \sin^2 x$$

$$\sin^2 x = 0 \Rightarrow \sin x = 0 \Rightarrow \sin^2 x = \cos^2 x$$

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

$$\text{ه) } \sin \frac{x}{r} = \frac{\cos \frac{x}{r} + 1}{1 + \cos \frac{x}{r}} \rightarrow \tan x = \frac{\sin x}{1 + \cos x} = \tan \frac{x}{2} = \cot \frac{x}{2}$$

$$x \in \left[-\pi, \frac{\pi}{2}\right] \rightarrow x = -\pi, \pi \rightarrow |\pi - (-\pi)| = 2\pi$$

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

$$\rightarrow \sin^2 = 0 \rightarrow \sin = 0$$

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

$$x \in \left\{0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}, 2\pi\right\} \rightarrow \text{جواب}$$

$$\text{ز) } \tan\left(\frac{\pi}{2} - x\right) = \frac{\tan \frac{\pi}{2} - \tan x}{1 + \tan \frac{\pi}{2} \tan x} = \frac{1 - \tan}{1 + \tan}$$

$$\tan\left(\frac{\pi}{2} - x\right) = \tan^2 x \rightarrow x = k\pi + \frac{\pi}{2} - x \rightarrow x = \frac{k\pi}{2} - \frac{\pi}{4}$$

ملینا کیائی

مانا فنر مهمام

با نام تجاری **تکنو فنر**

$$\sqrt{1 + 2\sin\cos} = \sqrt{(\sin+\cos)^2} = |\sin+\cos| = \sqrt{2}\cos\frac{\pi}{4}$$

$$\sqrt{2}(\cos-\sin)(\cos+\sin) \xrightarrow{\sin+\cos \neq 0} \sqrt{2}|\sin-\cos| = 1$$

$$\sqrt{2}|\sqrt{2}\sin(n-\frac{\pi}{4})| = 1 \rightarrow 2|\sin(n-\frac{\pi}{4})| = 1$$

$$|\sin(n-\frac{\pi}{4})| = \frac{1}{2} \rightarrow \sin(n-\frac{\pi}{4}) = \pm \frac{1}{2}$$

$$n - \frac{\pi}{4} = k\pi \pm \frac{\pi}{6} \rightarrow n = k\pi \pm \frac{\pi}{6} + \frac{\pi}{4} \xrightarrow{n \in [0, 2\pi]} \text{ جواب 2}$$

$$10) (\sin^2 + \cos^2)(\sin^2 - \cos^2) = 1 \quad \sin^2 - \cos^2 = \sin^2 + \cos^2$$

$$2\cos^2 n = 0 \rightarrow \cos = 0 \rightarrow n = \frac{\pi}{2} \text{ و } n = \frac{3\pi}{2}$$

$$11) \sin^4 - \cos^4 = -1 \rightarrow \sin^2 = 0 \text{ و } \cos^2 = 1 \rightarrow n = \frac{\pi}{2} \text{ و } n = \frac{3\pi}{2}$$

نقطه ایست
نیم

$$n = \frac{\pi}{2} \text{ و } n = \frac{3\pi}{2}$$

$$n \in \{0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}, 2\pi\}$$