

$\lambda \cos x = 1 + \tan^2 x$ $\lambda \cos x = \frac{1}{\cos^2 x}$ $\cos^2 x = \frac{1}{\lambda}$ $\cos x = \frac{1}{\sqrt{\lambda}}$ این نوی

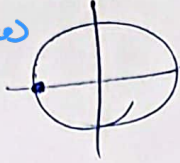


$x = \frac{\pi}{3}, \frac{5\pi}{3} \rightarrow$ جواب ۲

۲ ✓

~~از این روش~~ $5(1 - \cos^2 x) + \lambda \cos^2 x - 4 \cos x = -2$
 $5 - 5 \cos^2 x + \lambda \cos^2 x - 4 \cos x = -2$ $\lambda \cos^2 x - 5 \cos^2 x - 4 \cos x + 7 = 0$

$\cos x = -1$ جواب ۱



۱، ۷۵

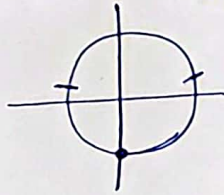
$\lambda - 5 = 7 - 5$

$x = \pi$

~~از این روش~~ $r \sin x (1 - r \sin^2 x) + \sin x = 1$ $r \sin x - r \sin^3 x + \sin x = 1$

$r \sin^3 x - r \sin x + 1 = 0$

$\sin x = -1, \frac{1}{r}$



۲ ✓

~~$x = \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$~~

$x = \frac{\pi}{4}, \frac{5\pi}{4}, \frac{3\pi}{4}$

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

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

$\sin x - \cos x = 0$ $r \sin x \cos x - \cos x = 0$ $r \sin x - 1 = 0$ $\sin x = \frac{1}{r}$



$r x = 2k\pi + \pi/4 \rightarrow x = k\pi + \pi/4$

$r x = 2k\pi + 0\pi/4 \rightarrow x = k\pi + 0\pi/4$

$\alpha = 0\pi/12 - \pi/12 = \frac{-\pi}{12} = \frac{\pi}{12} = 15^\circ$

$\tan 15^\circ = -\sqrt{3}$

۲ ✓

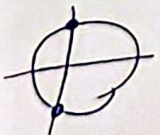
$\cos(x + \pi/4) = \cos x \times \frac{\sqrt{2}}{2} - \sin x \times \frac{\sqrt{2}}{2} = \frac{\sqrt{2}}{2}$ $\frac{\sqrt{2}}{2} (\cos x - \sin x) = \frac{\sqrt{2}}{2}$

$\cos x - \sin x = \frac{\sqrt{2}}{2} \times \frac{2}{\sqrt{2}} = \frac{2\sqrt{2}}{2\sqrt{2}} = \frac{2\sqrt{2}}{2} = \frac{\sqrt{2}}{1}$ $\frac{\sqrt{2}}{2} m - 3\sqrt{2} \sin x = \sqrt{2}$

$\frac{1}{2} m - 3 \sin x = 1$ $\frac{1}{2} m = 3 \sin x + 1$ $m = 6 \sin x + 2$

پایین صاف

$\sin(x + \pi/4) \cos(\pi/4 - x) = 1$ $\sin^2(x + \pi/4) = 1$ $\sin(x + \pi/4) = \pm 1$



$x + \pi/4 = k\pi + \pi/4$ $x = k\pi + \pi/4$

۲ جواب دارد

۲ ✓

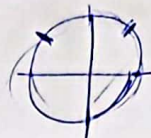
$$\frac{1}{r} \sin x + \sqrt{\frac{r}{r}} \cos x = \sqrt{\frac{r}{r}} \rightarrow \sin(x + \frac{\pi}{r}) = \sqrt{\frac{r}{r}}$$

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

$$x + \frac{\pi}{r} = 2k\pi + \frac{3\pi}{r} \rightarrow x = 2k\pi + \frac{2\pi}{r}$$

$$\frac{2\pi}{r} + \frac{2\pi}{r} = \frac{4\pi}{r}$$

(P) ✓



$$x = +\frac{\pi}{r}, -\frac{\pi}{r}, \frac{3\pi}{r}$$

آرکین نوری

-V

$$-f \sin x \cos x = 1 \rightarrow r \sin x \cos x = -\frac{1}{r} \quad \sin 2x = -\frac{1}{r}$$

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

$$2x = 2k\pi - \frac{3\pi}{r} \rightarrow x = k\pi - \frac{3\pi}{2r}$$

$$\frac{3\pi}{2r} + \frac{3\pi}{2r} = \frac{3\pi}{r} = \frac{3\pi}{r}$$

(P) ✓



$$x = \frac{11\pi}{12}, \frac{13\pi}{12}, \frac{5\pi}{12}, \frac{19\pi}{12}$$

-A

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

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

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

$$\cos x \cdot \cos 2x \cdot \cos 4x = \pm \frac{1}{\Lambda}$$

$$\cos^2 4x = \frac{1 + \cos 8x}{2} \rightarrow 1 + \cos 8x = 2 \cos^2 4x$$

$$\frac{1}{\sin x} (\sin x \cos x \cdot \cos 2x \cdot \cos 4x) = \pm \frac{1}{\Lambda}$$

$$\frac{1}{\sin x} \left(\frac{1}{r} \sin 2x \cos 2x \cdot \cos 4x \right) = \pm \frac{1}{\Lambda}$$

$$\frac{1}{\sin x} \left(\frac{1}{r} \sin 4x \cos 4x \right) = \pm \frac{1}{\Lambda}$$

$$\frac{\sin 4x}{\sin x} = \pm 1$$

$$\sin 4x = \pm \sin x \rightarrow \sin 4x = \sin x$$

$$\Lambda x = 2k\pi + \pi - x \rightarrow 9x = 2k\pi + \pi$$

$$\Lambda x = 2k\pi + x \rightarrow 7x = 2k\pi$$

$$x = \frac{2k\pi}{7} + \frac{\pi}{7}$$

$$x = \frac{2k\pi}{7}$$

$$\sin \Lambda x = -\sin x \rightarrow \sin \Lambda x = \sin(\pi + x)$$

$$\Lambda x = 2k\pi + \pi - x - \pi - x$$

$$\Lambda x = 2k\pi + \pi + x$$

$$Max = \frac{6\pi}{7}$$

$$\tan(x) = \cot(r x)$$

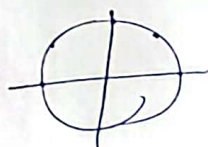
$$\tan x = \tan(\frac{\pi}{r} - r x)$$

$$x = k\pi + \frac{\pi}{r} - r x$$

-10

$$r x = k\pi + \frac{\pi}{r}$$

$$x = \frac{k\pi}{r} + \frac{\pi}{\Lambda}$$



$$x = \frac{9\pi}{\Lambda}, \frac{11\pi}{\Lambda}, \frac{13\pi}{\Lambda}, \frac{15\pi}{\Lambda}$$

$$\frac{r \cdot \pi}{\Lambda} + \frac{r \cdot \pi}{\Lambda} = \frac{r \cdot \pi}{\Lambda} = r \pi$$

(P) ✓

$$(C \cdot 5x - \sin x)^2 = (\frac{\sqrt{4}}{r})^2 \rightarrow C \cdot 5^2 x + \sin^2 x - 2 \sin x C \cdot 5x = \frac{4}{r}$$

-6

$$\sin 2x = \frac{1}{r}$$

$$\rightarrow m \times \frac{\sqrt{4}}{r} - 2 \sqrt{4} \times \frac{1}{r} = \sqrt{4}$$

$$m = 4$$