

$$\wedge \cos x - \tan^p x = 1 \quad \wedge \cos x = 1 + \tan^p x \rightarrow \wedge \cos^p x = \frac{1}{\wedge}$$

$$\rightarrow \cos x = \frac{1}{p} \rightarrow x = \frac{\pi}{p} \text{ و } \frac{\omega \pi}{p} \quad \xrightarrow{\text{جواب در } [0, 2\pi]} \quad \text{جواب در } [0, 2\pi]$$

(1)

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

$$p(\cos^p x + 1) \quad \text{همواره منفی + صفر}$$

$$\omega \sin^p x = 0 \rightarrow \sin x = 0 \rightarrow x = k\pi \quad \xrightarrow{x \in [-\pi, \pi]} \quad x = -\pi, 0, \pi \quad \star$$

$$p \cos^p(\frac{p}{p}x) = 0 \rightarrow \cos(\frac{p}{p}x) = 0 \rightarrow \frac{p}{p}x = k\pi + \frac{\pi}{p} \rightarrow x = \frac{p}{p}k\pi + \frac{\pi}{p}$$

$$x \in [-\pi, \pi] \quad x = -\pi, \pi \quad \star \quad \wedge \star \rightarrow \text{جواب در } [-\pi, \pi]$$

(2)

$$p \sin x \cos^p x + \sin x = 1 \quad \xrightarrow{x(-1)} \quad p \sin^p x - p \sin x + 1 = 0 \quad \text{تجزیه و کنیم}$$

$$(1 - p \sin^p x) \quad \text{تجزیه و کنیم}$$

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

$$\rightarrow \sin x = \frac{1}{p} \rightarrow x = \frac{\pi}{p} \text{ و } \frac{\omega \pi}{p}$$

(3)

$$\sin(\frac{\pi}{p} + px) + \frac{1}{\cos(\frac{\pi}{p} + px)} = 0 \quad \rightarrow \quad \sin(\frac{\pi}{p} + px) = -\cos(\frac{\pi}{p} + px)$$

$$\cos px = \cos(\frac{\pi}{p} - px) \quad \rightarrow \quad px = pk\pi + \frac{\pi}{p} - px \rightarrow 2px = pk\pi + \frac{\pi}{p} \rightarrow \frac{\pi}{p} \text{ و } \frac{\omega \pi}{p}$$

$$\rightarrow px = pk\pi - \frac{\pi}{p} + px \rightarrow -px = pk\pi - \frac{\pi}{p} \rightarrow \text{مخرج را متن می کند}$$

$$a = \frac{\omega \pi}{p} - \frac{\pi}{p} = \frac{\pi}{p} \rightarrow \tan(px) = -\frac{1}{p}$$

(4)

$$m(\cos x - \sin x) - p\sqrt{p} \sin^p x = \sqrt{p}$$

$$\star \text{ طبق } \rightarrow \frac{\sqrt{p}}{p} \quad \star \text{ طبق } \rightarrow \frac{1}{p}$$

$$\cos(x + \frac{\pi}{p}) = \frac{1}{p} \rightarrow \cos x \frac{1}{p} - \sin x \frac{1}{p} = \frac{1}{p} \rightarrow \cos x - \sin x = \frac{1}{p} \quad \star$$

$$p \text{ توان } \rightarrow 1 - \sin^p x = \frac{p}{p} \rightarrow \frac{1}{p} \quad \star$$

$$m(\frac{1}{p}) - \sqrt{p} = \sqrt{p} \quad \rightarrow \quad m = p\sqrt{p} \times \frac{1}{p} = (p)$$

(5)

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

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

(4)

$$\sin\left(\frac{\pi}{4} + x\right) \rightarrow \sin^r\left(x + \frac{\pi}{4}\right) = 1 \rightarrow \sin\left(x + \frac{\pi}{4}\right) = \pm 1$$

$$\rightarrow x + \frac{\pi}{4} = k\pi + \frac{\pi}{4} \rightarrow x = k\pi + \frac{\pi}{4} \xrightarrow{x \in [0, 2\pi]} \frac{\pi}{4} \text{ و } \frac{5\pi}{4} \rightarrow \text{مطلوب}$$

$$\frac{1}{r} (\sin x + \sqrt{r} \cos x = \sqrt{r}) \rightarrow \sin\left(x + \frac{\pi}{r}\right) = \frac{\sqrt{r}}{r} \rightarrow x + \frac{\pi}{r} = rK\pi + \frac{\pi}{r} \quad \text{و} \quad rK\pi + \frac{\pi}{r} + \frac{\pi}{r} = \frac{\omega\pi}{r}$$

$\omega\pi$  Sin

$x \in [-\pi, 2\pi] \rightarrow x = -\frac{\pi}{1r} \text{ و } \frac{\omega\pi}{1r} \text{ و } \frac{r\pi}{1r} \rightarrow \frac{9\pi}{r}$

$$r \sin x \sin x \left(\frac{\pi}{r} - x\right) = 1 \rightarrow \sin rx = -\frac{1}{r} \rightarrow rx = rK\pi - \frac{\pi}{4} \text{ و } rx = rK\pi + \frac{\pi}{4}$$

$x \in [0, 2\pi] \rightarrow \frac{v\pi}{1r} + \frac{11\pi}{1r} + \frac{19\pi}{1r} + \frac{r\pi}{1r} = \omega\pi$

$$(1 + \cos rx)(1 + \cos^r x)(1 + \cos^r rx) = \frac{1}{A} \text{ و } f$$

$$\frac{\cos x}{\sin x} \times \frac{\cos rx}{\frac{1}{r} \sin rx} \times \frac{\cos^r x}{\frac{1}{r} \sin^r x} = \frac{\pm 1}{A} \rightarrow \frac{\sin \Lambda x}{\sin x} = \pm 1$$

$\sin \Lambda x = \pm \sin x$

$$\rightarrow \sin \Lambda x = \sin x \rightarrow \Lambda x = rK\pi + x \rightarrow x = \frac{rK\pi}{\Lambda} \text{ و } \Lambda x = rK\pi + \pi - x \rightarrow x = \frac{rK\pi}{\Lambda} + \frac{\pi}{\Lambda}$$

$$\rightarrow \sin \Lambda x = \sin(-x) \rightarrow \Lambda x = rK\pi - x \rightarrow x = \frac{rK\pi}{\Lambda} \text{ و } \Lambda x = rK\pi + \pi + x \rightarrow x = \frac{rK\pi}{\Lambda} + \frac{\pi}{\Lambda}$$

$x \in [0, \pi] \rightarrow x_{\max} = \frac{\Lambda\pi}{9}$

$$\tan rx \tan x = 1 \rightarrow \tan rx = \frac{1}{\tan x} \text{ و } \tan\left(\frac{\pi}{r} - x\right)$$

$$\frac{rx}{rx} = k\pi + \frac{\pi}{r} - x \rightarrow x = \frac{k\pi}{r} + \frac{\pi}{\Lambda} \rightarrow \frac{11\pi}{\Lambda} + \frac{9\pi}{\Lambda} + \frac{13\pi}{\Lambda} + \frac{15\pi}{\Lambda}$$

$x \in [\pi, 2\pi] \rightarrow 4\pi$

(10)