

سازگاری

الف) $r \sin^2 x + r \sin x - r = 0 \Rightarrow 0 = (r \sin x - 1)(\sin x + r)$ ①

$\sin x = -r$ $\Rightarrow x = k\pi + \pi - \frac{\pi}{9}$
 $\sin x = \frac{1}{r} \Rightarrow x = k\pi + \frac{\pi}{9}$

ب) $r \cos^2 x + r \cos x - r = 0 \Rightarrow (r \cos x + 1)(\cos x - 1) = 0$ ②

$\cos x = -\frac{1}{r}$ $\Rightarrow x = k\pi + \pi - \frac{\pi}{9}$
 $\cos x = 1 \Rightarrow x = k\pi$

الف) $\sin^2 x - \cos^2 x = 1 - \cos^2 x = \sin^2 x \Rightarrow \cos^2 x = 0 \Rightarrow \cos x = 0$ ③

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

ب) $1 + \cos^2 x + \sin^2 x = 1 \Rightarrow \cos^2 x = -\sin^2 x \Rightarrow \cos x = \pm i \sin x$ ④

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

الف) $r \cos^2 x + r \cos x - 1 = 0 \Rightarrow (r \cos x - 1)(\cos x + 1) = 0$ ⑤

$\cos x = -1 \Rightarrow x = k\pi + \pi$
 $\cos x = \frac{1}{r} \Rightarrow x = k\pi \pm \frac{\pi}{9}$

$\sin x \neq 0 \Rightarrow x \neq k\pi$

ب) $\cos^2 x - \sin^2 x = r \cos^2 x \Rightarrow -\sin^2 x = \cos^2 x \Rightarrow \cos x = \pm i \sin x$ ⑥

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

الف) $\cos(\frac{\pi}{4} + x) \sin(\frac{\pi}{4} + x) = \frac{1}{r} \Rightarrow \sin(\frac{\pi}{4} + x) = \frac{1}{r}$ ⑦

$\Rightarrow \cos x = \frac{1}{r} \Rightarrow x = k\pi \pm \frac{\pi}{9}$
 $x = k\pi \pm \frac{\pi}{9}$

ب) $\cos(x - \frac{\pi}{4}) = \cos(\frac{\pi}{4} + x)$ ⑧

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

$$\frac{\sin \pi x + \sin \pi x}{\sin \pi x} = 1 \Rightarrow \sin \pi x = \sin \pi x + \sin \pi x \Rightarrow \sin \pi x = 0$$

$$\pi x = k\pi \Rightarrow x = \frac{k\pi}{\pi}$$

$$\frac{\sin \frac{\pi}{2}}{1 + \cos \frac{\pi}{2}} = \frac{1 + \cos \frac{\pi}{2}}{\sin \frac{\pi}{2}} \Rightarrow 1 + \cos \frac{\pi}{2} + \cos \frac{\pi}{2} = \frac{\sin \frac{\pi}{2}}{1 - \cos \frac{\pi}{2}}$$

$$\Rightarrow \cos \frac{\pi}{2} + \cos \frac{\pi}{2} = 0 \Rightarrow \cos \frac{\pi}{2} = 0 \Rightarrow \frac{\pi}{2} = k\pi + \frac{\pi}{2}$$

$$\pi - |\pi| = 0$$

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

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

در این بازه بازه بازه

$$x - \sin x - \sin x \cos x = x \Rightarrow \sin x + \sin x \cos x = 0 \Rightarrow \sin x (1 + \cos x) = 0$$

$$\sin x = 0 \Rightarrow x = k\pi \Rightarrow x = \frac{k\pi}{\pi}$$

$$\cos x = -1 \Rightarrow x = k\pi + \pi \Rightarrow x = \frac{k\pi}{\pi} + \pi$$

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

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

$$\tan \pi x + \tan x \tan \pi x = 1 - \tan x \Rightarrow \tan \pi x + \tan x = 1 - \tan x \tan \pi x \Rightarrow$$

$$\tan \pi x = \frac{\tan x + \tan \pi x}{1 - \tan x \tan \pi x}$$

$$\tan \pi x = 1$$

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

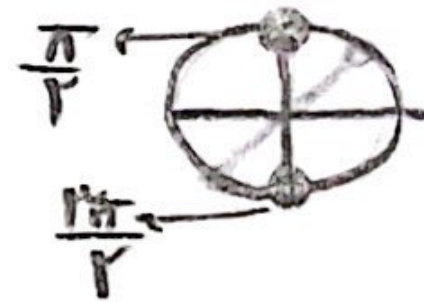
$$1 - \sin x = \cos x \Rightarrow \sin x = \cos x \Rightarrow \cos(\frac{\pi}{2} + x) = \cos x$$

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

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

الف) $\sin^2 x - \cos^2 x = 1 \Rightarrow \cos^2 x = -1$ (10)

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



ب) استان من کتم!

