

وفا

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$$1 \sin z = \frac{1}{\cos z} \rightarrow z = \frac{1}{\cos z} \rightarrow \cos z = \frac{1}{z} \rightarrow z = K\pi \pm \frac{\pi}{2} \quad -1$$

(جواب دار)

$$\frac{\cos z}{\sin z} = \frac{1}{\cos z} \rightarrow \cos^2 z = \sin^2 z \rightarrow \cos^2 z = 1 - \sin^2 z \rightarrow \cos^2 z = 1 - \cos^2 z \rightarrow 2\cos^2 z = 1 \rightarrow \cos^2 z = \frac{1}{2} \rightarrow \cos z = \pm \frac{1}{\sqrt{2}} \rightarrow z = \pm \frac{\pi}{4} + K\pi$$

$$\rightarrow \therefore \cos z = \pm \frac{1}{\sqrt{2}} \rightarrow z = \pm \frac{\pi}{4} + K\pi$$

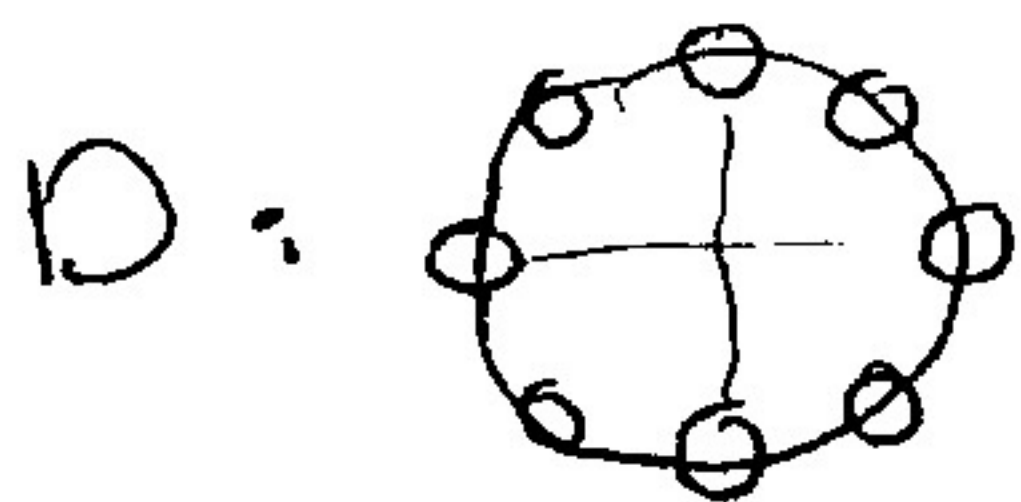
$$\cos z = 1 \rightarrow z = 2K\pi$$

$$\cos z = -1 \rightarrow z = (2K+1)\pi$$

$$\cos z = \frac{1}{2} \rightarrow z = \pm \frac{\pi}{3} + 2K\pi$$

$$\frac{1}{\sin z} = \frac{1}{\cos z} \rightarrow \sin z = \cos z \rightarrow \sin z = \sin(\frac{\pi}{2} - z) \rightarrow z = \frac{\pi}{2} - z + 2K\pi \rightarrow 2z = \frac{\pi}{2} + 2K\pi \rightarrow z = \frac{\pi}{4} + K\pi$$

$$\cos z = \sin z \rightarrow z = \frac{\pi}{4} + K\pi$$



$$\alpha_1 = \frac{\pi}{4}, \alpha_2 = \frac{5\pi}{4} \rightarrow \alpha_2 - \alpha_1 = \pi \rightarrow \tan \alpha = 0$$

$$\cos z = \frac{1}{\sqrt{2}} \rightarrow z = \pm \frac{\pi}{4} + 2K\pi$$

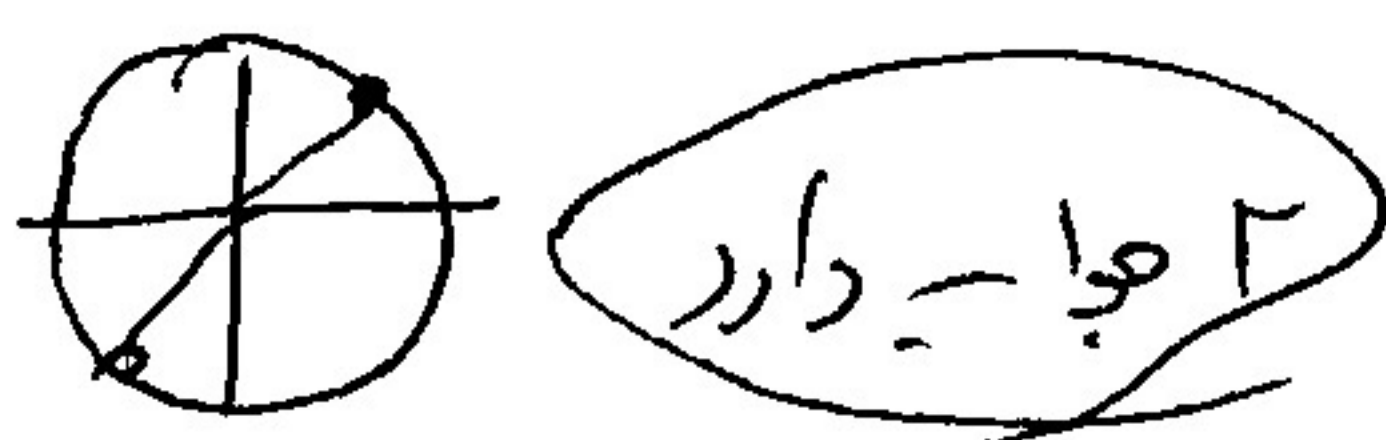
$$\rightarrow \frac{m\sqrt{r}}{\sqrt{r}} = \sqrt{r} \sin z = \sqrt{r} \rightarrow \sin z = 1 \rightarrow z = \frac{\pi}{2} + 2K\pi$$

$$m = 4$$

$$\sin\left(n + \frac{\pi}{5}\right) \cos\left(n + \frac{\pi}{5}\right) = 1$$

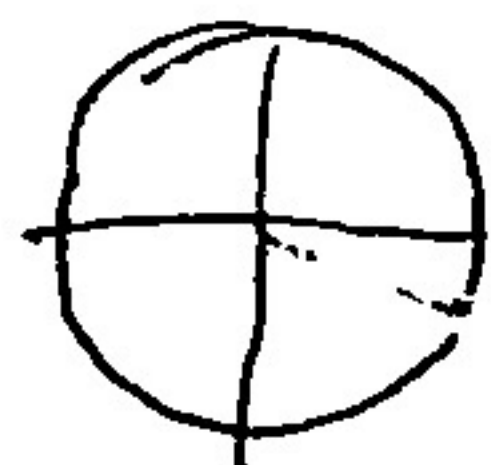
$$\rightarrow |\sin\left(n + \frac{\pi}{5}\right)| = 1$$

$$n + \frac{\pi}{5} = \frac{\pi}{5} + k\pi \rightarrow n = \frac{\pi}{5} + k\pi$$



$$\sin n + \tan \frac{\pi}{5} \cos n = \sqrt{2} \rightarrow \sin n \cos \frac{\pi}{5} + \sin \frac{\pi}{5} \cos n = \sqrt{2}$$

$$\rightarrow \frac{\sqrt{2}}{2} = \sin\left(n + \frac{\pi}{5}\right) \rightarrow$$

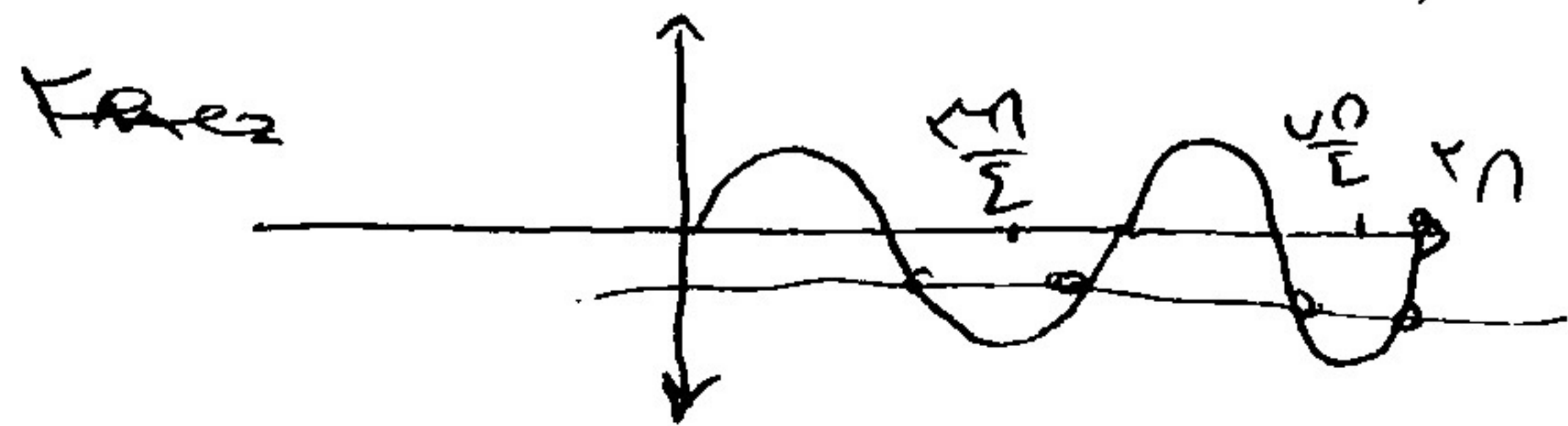


$$-\frac{\pi}{15}, \pi - \frac{\pi}{15}, \frac{2\pi}{15}, \dots$$

$$S = \frac{4\pi}{5}$$

$$-K \sin n \cos n = 1$$

$$\rightarrow \sin 2n = -\frac{1}{K}$$



$$S = \frac{\pi}{5} + \frac{2\pi}{5} = \frac{3\pi}{5}$$

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

$$\rightarrow \frac{1}{2} = \cos 4\alpha \cos 2\alpha \cos \alpha$$

$$\frac{1}{2} = \cos \alpha \cos 2\alpha \cos 4\alpha \rightarrow$$

$$\sin 8\alpha = \sin \alpha$$

$$\sin 8\alpha = -\sin \alpha$$

$$\begin{aligned} \alpha &= \frac{5k\pi}{9} \\ \alpha &= \frac{k\pi}{9} \\ \alpha &= \frac{(k+1)\pi}{9} \end{aligned}$$

$$\max(A) = \frac{\pi}{A}$$

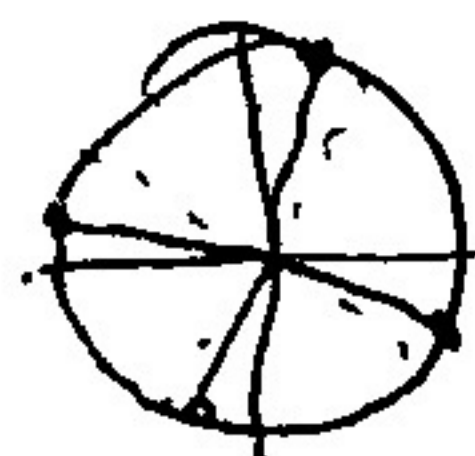
$$D: n \neq k\pi$$

$$\rightarrow n = k\pi + \frac{\pi}{5} - n$$

$$\rightarrow 2n = k\pi + \frac{\pi}{5} \rightarrow n = \frac{k\pi}{2} + \frac{\pi}{10}$$

$$\tan(n) = \frac{\sin n}{\cos n} = 1$$

$$\tan\left(\frac{\pi}{4} - n\right)$$



$$S = \frac{2\pi}{5} + \frac{\pi}{5} = \frac{3\pi}{5}$$

$$\frac{k\pi}{5}$$