

(2)

لذا ابراهيمي ساء و 18 بارزهم دفتر

$$\frac{1}{\sqrt{\cos^2 x}} - \frac{1}{\cot x} = \frac{1 - \sin x}{|\cos x|} \Rightarrow \frac{1}{|\cos x|} = \tan x = \frac{1 - \sin x}{|\cos x|}$$

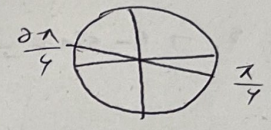
$$\frac{1 - 1 + \sin x}{|\cos x|} = \frac{\sin x}{\cos x} \Rightarrow |\cos x| = \cos x$$

نفسه $\cos x \sin x$
 \downarrow
 1-2

$$\cot x = \frac{\cos x}{\sqrt{1 - \cos^2 x}} \Rightarrow \frac{\cos x}{\sin x} = \frac{\cos x}{|\sin x|} \Rightarrow |\sin x| = \sin x$$

$$-\frac{\pi}{12} < x < \frac{\pi}{12} \rightarrow -\frac{\pi}{6} < 2x < \frac{\pi}{6} \rightarrow -\frac{1}{2} < \sin 2x \leq 1$$

$$-\frac{1}{2} < \frac{m-1}{2} \leq 1 \rightarrow -1 < m-1 \leq 2 \rightarrow -1 < m \leq 3$$



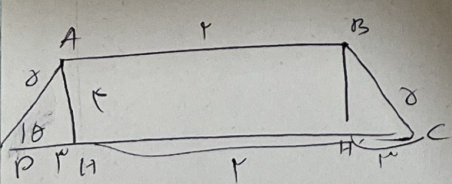
m مقادير => (-1, 3]

$$\tan x + \cot x = -\mu \rightarrow \frac{\sin^2 x + \cos^2 x}{\sin x \cos x} = -\mu \Rightarrow \sin x \cos x = -\frac{1}{\mu}$$

$$\sin^2 x + \cos^2 x = (\sin x + \cos x) \left(\frac{\sin^2 x - \cos^2 x}{1} - \frac{\sin x \cos x}{-\frac{1}{\mu}} \right) = -\frac{1}{\sqrt{\mu}} \times \frac{\mu}{\mu} = -\frac{\mu}{\sqrt{\mu}}$$

$$(\sin x + \cos x)^2 = \sin^2 x + \cos^2 x + \sin x \cos x = 1 - \frac{\mu}{\mu} = \frac{1}{\mu} \rightarrow \sin x + \cos x = \pm \frac{1}{\sqrt{\mu}}$$

$$\rightarrow \sin x + \cos x < \dots \quad \frac{1}{\sin^2 x + \cos^2 x} = \frac{1}{-\frac{\mu}{\sqrt{\mu}}}$$



$$\cos \theta = \frac{PH}{AP} = \frac{DH}{\delta} = \frac{r}{\delta} \rightarrow DH = r$$

$$CH' = r \quad AB = HH' = r$$

$$CD = r + r + r = 1$$

$$AD^2 = DH^2 + AH^2 \rightarrow \delta^2 = r^2 + AH^2 \rightarrow AH = \epsilon$$

$$S_{\text{تربيع}} = \frac{(AB + CD) \times AH}{2} = \frac{(r + 1) \times r}{2} = r$$

$$\tan(\pi + \theta) \tan(-\pi + \theta) - \sin(\pi + \theta) \cos(\pi + \theta) = \tan\left(\frac{\pi}{2} + \theta\right) \times \tan(-\pi + \theta) - \sin\left(\frac{\pi}{2} + \theta\right) \times \cos\left(\frac{\pi}{2} + \theta\right)$$

$$= -\cot \theta \times \tan \theta - \sin \theta \times -\sin \theta = -1 + \sin^2 \theta = -1 + (1 - \cos^2 \theta) = -\cos^2 \theta = -\cos^2 \theta$$

$k = -1$

$$A = \sqrt{r} \cos(\pi) \times \sin(\pi) - \sqrt{r} \sin(\pi) \cos(\pi) = \sqrt{r} \times 1 \times 0 - \sqrt{r} \times 0 \times 1 = 0$$

$$= \sqrt{r} \times 1 + \frac{\sqrt{r}}{r} \times \sin(\frac{\pi}{r} - \pi) - \sqrt{r} \times \frac{\sqrt{r}}{r} \times \cos(\pi - \pi) = -\frac{r}{r} \times -\cos \pi - 1 \times -\cos \pi = \frac{r}{r} \cos \pi + \cos \pi = \frac{r}{r} \cos \pi$$

$$\frac{A}{\cos \pi} = \frac{\frac{r}{r} \cos \pi}{\cos \pi} = \frac{r}{r} = 1$$

$$f(\frac{\pi}{r}) = 14 \cos^4(\frac{\pi}{r}) \times \cos^2(\frac{\pi}{r}) \times \cos^2(\frac{\pi}{r}) \times \cos^2(\frac{\pi}{r}) = 14 \times \frac{r \sqrt{r}}{r} \times \frac{1}{2} \times \frac{r}{2} \times \frac{1}{2} = \frac{4 + r \sqrt{r}}{14}$$

$$\cos^2(\frac{\pi}{r}) = \frac{1 + \cos \frac{2\pi}{r}}{2} = \frac{1 + \frac{r}{r}}{2} = \frac{r + r}{r} = \frac{r + r}{2}$$

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

$$\sin^2 x + \cos^2 x = 1 \rightarrow \frac{1}{9} + \cos^2 x = 1 \rightarrow \cos^2 x = \frac{8}{9} \rightarrow \cos x = \frac{\sqrt{8}}{3}$$

$$\tan \frac{x}{r} = \frac{\sin x}{1 + \cos x} = \frac{-\frac{1}{3}}{1 - \frac{2}{3}} = \frac{-\frac{1}{3}}{\frac{1}{3}} = -1$$

$$\frac{\sin \theta}{1 - \cos \theta} + \frac{1 + \cos \theta}{\sin \theta} = \frac{\sin^2 \theta + 1 - \cos^2 \theta}{\sin \theta (1 - \cos \theta)} = \frac{2 \sin^2 \theta}{\sin \theta (1 - \cos \theta)} = \frac{2 \sin \theta}{1 - \cos \theta} = r \cot \frac{\theta}{r} = k \cot \frac{\theta}{r} \rightarrow k = r$$

$$\cos(\frac{11\pi}{2} + \alpha) = \cos \frac{11\pi}{2} \cos \alpha - \sin \frac{11\pi}{2} \sin \alpha$$

$$= -\frac{\sqrt{r}}{r} \times -\frac{\sqrt{r}}{r} - \frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{r} = \frac{r}{r} - \frac{r}{r} = 0$$

$$\sin^2 \alpha + \cos^2 \alpha = 1 \rightarrow \frac{r}{r} + \cos^2 \alpha = 1 \rightarrow \cos^2 \alpha = \frac{r - r}{r} = 0 \rightarrow \cos \alpha = 0$$