

فرضه اولی

فرضه دوم

فرضه سوم

$$\left. \begin{aligned} \tan \alpha + \cot \alpha &= -\mu \\ \mu \pi < \alpha < \pi \end{aligned} \right\} \sin^2 \alpha + \cos^2 \alpha = 1 \quad (*)$$

$$\frac{\sin \alpha}{\cos \alpha} + \frac{\cos \alpha}{\sin \alpha} = -\mu = \frac{\sin^2 \alpha + \cos^2 \alpha}{\sin \alpha \cos \alpha} = -\mu$$

$$\rightarrow \sin \alpha \cos \alpha = -\frac{1}{\mu} \quad (\sin \alpha + \cos \alpha)^2 = \frac{1}{\mu}$$

$$\frac{\sin^2 \alpha + \cos^2 \alpha}{1} + \frac{2 \sin \alpha \cos \alpha}{-\frac{1}{\mu}} = \frac{1}{\mu}$$

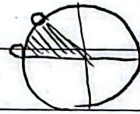
$$\sin \alpha + \cos \alpha = \pm \frac{1}{\sqrt{\mu}} \quad \frac{\mu \pi}{2} < \alpha < \pi$$

$$\sin \alpha + \cos \alpha < 0 \rightarrow = -\frac{1}{\sqrt{\mu}}$$

$$\frac{1}{\sin^2 \alpha + \cos^2 \alpha} \rightarrow (\sin \alpha + \cos \alpha)^2 = \frac{1}{\mu} \quad \mu (\sin \alpha \cos \alpha) (\sin \alpha + \cos \alpha)$$

$$\frac{-1}{\mu \sqrt{\mu}} = \frac{1}{\sqrt{\mu}} = \frac{-1 - \mu}{\mu \sqrt{\mu}} = \frac{-\mu}{\mu \sqrt{\mu}}$$

$$\rightarrow \sin^2 \alpha + \cos^2 \alpha = \frac{-\mu \sqrt{\mu}}{\mu}$$



$$\frac{1}{\sqrt{\cos^2 \alpha}} - \frac{1}{\cos \alpha} = 1 - \sin \alpha \quad (*)$$

$$\frac{1}{|\cos \alpha|} - \frac{1}{\cos \alpha} = 1 - \sin \alpha$$

$$\frac{\cos \alpha}{\sqrt{1 - \cos^2 \alpha}} \rightarrow \frac{\cos \alpha}{\sin \alpha} = \frac{\cos \alpha}{|\sin \alpha|}$$

$$\sqrt{\sin^2 \alpha} = |\sin \alpha|$$

$$\rightarrow |\sin \alpha| = \sin \alpha \rightarrow \sin \alpha \geq 0$$

$$\frac{1}{|\cos \alpha|} - \frac{1}{\cos \alpha} = 1 - \sin \alpha \rightarrow \frac{1}{|\cos \alpha|} = \frac{1}{\cos \alpha} - \sin \alpha$$

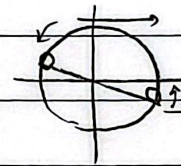
$$|\cos \alpha| = \cos \alpha \rightarrow \cos \alpha \geq 0$$

$$\sin \alpha = \frac{m-1}{\mu} \quad (*)$$

$$\frac{-\pi}{\mu} < \alpha < \frac{\omega \pi}{\mu}$$

$$\frac{-\pi}{4} < \alpha < \frac{\omega \pi}{4}$$

max $\sin \alpha = 1$
min $\sin \alpha = -\frac{1}{\mu}$



$$-\frac{1}{\mu} < \sin \alpha \leq 1$$

$$-\mu < m-1 \leq \mu$$

$$-1 < m \leq \omega$$

$$m \in (-1, \omega]$$

s.a.m

$$P_{\text{max}} = 14 \cos^2(\frac{\pi}{4}) \cos^2(4\alpha) \quad (V)$$

$$\cos^2(\frac{\pi}{4}) \cos^2(\frac{\pi}{4})$$

$$\frac{P(\frac{\pi}{4})}{\frac{P}{4}} = 9 = 14 \cos^2(\frac{\pi}{4}) \cos^2(\frac{\pi}{4}) \cos^2(\frac{\pi}{4})$$

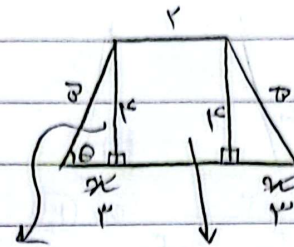
$$\frac{1}{\frac{1}{4}} = 14 \times \frac{1}{2} \times \frac{1}{2} \times \cos^2 \frac{\pi}{4}$$

$$= \frac{1}{2} \cos^2(\frac{\pi}{4})$$

$$\cos^2 \alpha = \frac{1 + \cos 2\alpha}{2} \rightarrow \cos^2(\frac{\pi}{4}) = \frac{1 + \frac{\sqrt{2}}{2}}{2}$$

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

$$\frac{1}{2} \times \frac{2 + \sqrt{2}}{2} = \frac{2 + \sqrt{2}}{4}$$



$$\cos \theta = \frac{a}{b} = 2/4$$

$$a = 1$$

$$S = \frac{1 \times h}{2} = S = \Delta \quad \text{So } h = 2(1) + 1 = 3$$

$$\tan(\frac{\pi}{4} + 10^\circ) \tan(\frac{\pi}{4} - 10^\circ) = \frac{1 - \tan^2 10^\circ}{2 \tan 10^\circ} = \frac{1 - \sin^2 10^\circ}{2 \sin 10^\circ \cos 10^\circ} = \frac{\cos^2 10^\circ}{\sin 20^\circ}$$

$$= \frac{1 + \cos 20^\circ}{2 \sin 10^\circ} = \frac{1 + \frac{\sqrt{3}}{2}}{2 \sin 10^\circ}$$

$$= \frac{2 + \sqrt{3}}{4 \sin 10^\circ}$$

$$A = \sqrt{2} \cos(\frac{\pi}{4}) \sin(\frac{\pi}{4}) = 1$$

$$= \sqrt{2} \sin(\frac{\pi}{4}) \cos(\frac{\pi}{4}) = 1$$

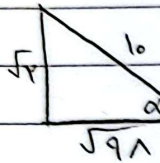
$$\frac{1}{2} \cos 2V + \cos 2V = \frac{3}{2} \cos 2V$$

s.a.m

$$\sin \alpha = \frac{\sqrt{r}}{l_0}$$

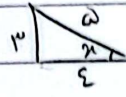
$$\cos \left(\frac{11\pi}{\Sigma} + \alpha \right) \quad (10)$$

$$\cos \alpha = \frac{-\sqrt{r}}{l_0}$$



$$\sqrt{r} \sin \left(\alpha + \frac{\pi}{\Sigma} \right) = \sin \alpha + \frac{\cos \alpha}{\Sigma}$$

$$\frac{-4\sqrt{r}}{l_0}$$



$$\tan \frac{\pi}{\Sigma} = \frac{\sin \alpha}{1 + \cos \alpha} = \frac{-\frac{\sqrt{r}}{l_0}}{1 - \frac{\epsilon}{l_0}} \quad (-\sqrt{r})$$

$$\sin \left(\alpha + \frac{\pi}{\Sigma} \right) = \frac{-\sqrt{r}}{l_0} \rightarrow \cos \left(\alpha + \frac{\pi}{\Sigma} \right) = \frac{-\epsilon}{l_0}$$

$$|\sin \alpha| < |\cos \alpha| \rightarrow \frac{\pi}{\Sigma} < \alpha < \pi \rightarrow$$

$$\pi < \alpha + \frac{\pi}{\Sigma} < \frac{3\pi}{\Sigma} \rightarrow \cos \left(\alpha + \frac{\pi}{\Sigma} \right) < 0$$

$$\cos \left(\frac{11\pi}{\Sigma} + \alpha \right) = \cos \left(\pi - \left(\frac{\pi}{\Sigma} + \alpha \right) \right) = -\cos \left(\alpha + \frac{\pi}{\Sigma} \right) = \frac{+\epsilon}{l_0}$$

$$\frac{\sin \theta}{1 + \cos \theta} = \frac{1 + \cos \theta}{\sin \theta} = \cot \theta \quad (9)$$

$$\frac{\sin \alpha}{1 + \cos \alpha} = \frac{1 - \cos \alpha}{\sin \alpha} = \tan \frac{\alpha}{2}$$

$$\cot \frac{\theta}{2} + \cot \frac{\theta}{2} = 2 \cot \frac{\theta}{2} \rightarrow (k = 2)$$