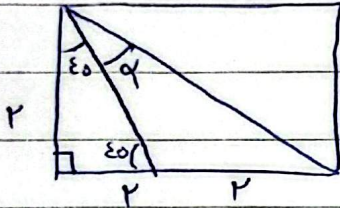


$S = \frac{1}{2} a b \sin \alpha \Rightarrow \frac{1}{2} \alpha \sqrt{p} \alpha \sin \alpha = \epsilon, 0$ ①

$\sin \alpha = \frac{\epsilon / \alpha}{\frac{1}{2} \sqrt{p}} = \frac{\sqrt{p}}{2} \rightarrow \alpha = 4.0^\circ$ $\frac{12.0^\circ}{4.0^\circ} \rightarrow 3$
بنا

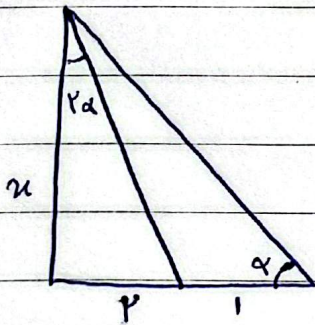


$\cot(\alpha + \epsilon) = \frac{r}{\epsilon} = \frac{1}{p}$

$\cot(\alpha + \epsilon) = \frac{1 - \tan \alpha \tan \epsilon}{\tan \alpha + \tan \epsilon} = \frac{1 - \tan \alpha}{\tan \alpha + 1}$

$\frac{1 - \tan \alpha}{\tan \alpha + 1} = \frac{1}{p} \rightarrow r - r \tan \alpha = 1 + \tan \alpha$

$r \tan \alpha < 1 \rightarrow \tan \alpha < \frac{1}{p} \rightarrow \cot \alpha > p$



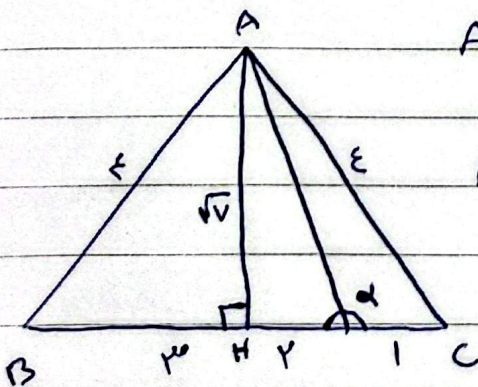
$\tan \alpha = \frac{m}{p}$

$\tan \alpha = \frac{p}{m} \Rightarrow \tan \alpha = \frac{p \tan \alpha}{1 - \tan \alpha} = \frac{\frac{pm}{p}}{\frac{p-m}{p}} = \frac{pm}{p-m} = \frac{4m}{9-m} = \frac{p}{m}$

$4m^2 = 11 - pm^2 \rightarrow 4m^2 < 11$

$m^2 < \frac{11}{4} \rightarrow m < \frac{\sqrt{11}}{2}$
GUE

$\tan \alpha = \frac{p}{m} \Rightarrow \frac{1}{p} \rightarrow \cot \alpha = p$



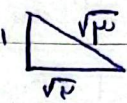
AH → ارتفاع و مساحت

$\Delta AHC = AH^2 + 1 = 14$

$AH = \sqrt{v}$

$\Delta AEH \Rightarrow \tan(11. - \alpha) = \frac{\sqrt{v}}{p}$

$\tan(11. - \alpha) = -\tan \alpha \rightarrow \tan \alpha = -\frac{\sqrt{v}}{p}$

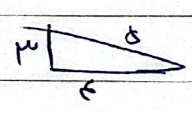
$$\sin^2 \mu + \sin^2 \mu + \cos^2 \mu = \frac{r}{\mu} \rightarrow \sin^2 \mu = \frac{1}{\mu} \quad \sin \mu = \pm \frac{1}{\sqrt{\mu}} \quad \cos \mu = \pm \frac{\sqrt{\mu}}{\mu} \quad \tan \mu = \frac{1}{\sqrt{\mu}}$$


(3)

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

~~$$\frac{(r - \sin^2 \alpha) r}{r - \sin^2 \alpha} = \frac{(r - \cos^2 \alpha) r}{r - \cos^2 \alpha} \Rightarrow (r - \sin^2 \alpha) - r + \cos^2 \alpha = \cos^2 \alpha - \sin^2 \alpha = \cos^2 \alpha$$~~

(function of $\tan \alpha = \frac{r}{\mu}$) (4)

$$\sin\left(\frac{r\mu}{r} + \alpha\right) \cos\left(\frac{r\mu}{r} - \alpha\right) - \tan\left(\alpha - \frac{r\mu}{r}\right)$$


(5)

$$(r - \sin^2 \alpha) r - r + \cos^2 \alpha = \cos^2 \alpha - \sin^2 \alpha = \cos^2 \alpha$$

$$\mu \cos^2 \mu + \sqrt{\mu} \sin \mu - \sqrt{\mu} \cos \mu \quad \mu = \frac{\pi}{10}$$

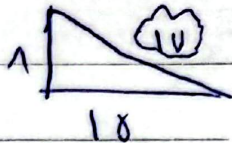
$$\mu \cos \frac{\pi}{10} + \sqrt{\mu} (\sin \mu - \cos \mu)$$

$$\mu \cos \frac{\pi}{10} + \sqrt{\mu} (\sqrt{\mu} \sin(-\frac{\pi}{10}) - \sqrt{\mu} \cos \frac{\pi}{10}) \rightarrow \frac{\mu}{10} + \sqrt{\mu} (\sqrt{\mu} \times \sin(-\frac{\pi}{10})) = \frac{\mu}{10} + \sqrt{\mu} (\sqrt{\mu} \times -\frac{1}{2})$$

$$\frac{\mu}{10} - 1 = \frac{1}{10}$$

9

$$\tan \alpha = \frac{P \tan(\frac{\alpha}{P})}{1 - \tan^2(\frac{\alpha}{P})} = \frac{P \times 1}{1 - \frac{1}{14}} = \frac{P}{\frac{13}{14}} \Rightarrow \frac{14}{13} = \frac{1}{10}$$



$$\frac{\tan \alpha - \sin \alpha}{\sin \alpha - \cos \alpha} = \frac{\frac{1}{10} - \frac{1}{14}}{\frac{1}{14} - \frac{10}{14}} = \frac{\frac{14 - 10}{140}}{\frac{1 - 100}{140}} \Rightarrow \frac{4}{-99} = -\frac{4}{100}$$

$$\circ < \frac{\cos \alpha}{\sin \alpha} \quad P \sin \alpha < \sin \alpha \quad 10$$

$$\frac{\cos \alpha}{\sin \alpha} > 0 \rightarrow \frac{\cos \alpha}{\sin \alpha} > 0 \rightarrow \cos \alpha > 0 \quad \left. \begin{array}{l} \cos \alpha + \frac{P \times \cos \alpha}{\sin \alpha} \\ \sin \alpha - \end{array} \right\}$$

$$\cancel{\sin \alpha} < \cancel{\sin \alpha} \cos \alpha \Rightarrow \sin \alpha < 0$$

$$\circ < \sin \alpha < 1$$