

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

$\frac{\cos \alpha}{\sin \alpha} = \frac{\cos \alpha}{|\sin \alpha|} \Rightarrow \sin \alpha > 0$

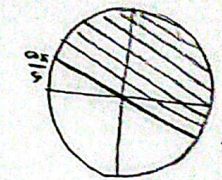
$\frac{1}{|\cos \alpha|} - \frac{\sin \alpha}{\cos \alpha} = \frac{1 - \sin \alpha}{|\cos \alpha|} \Rightarrow \cos \alpha > 0$

نوع اول همگونی برقرار است

$\sin^2 \alpha = \frac{m-1}{F}$, $-\frac{\pi}{12} < \alpha < \frac{\pi}{12}$

$-\frac{\pi}{12} < \alpha < \frac{\pi}{12} \Rightarrow -\frac{\pi}{6} < 2\alpha < \frac{\pi}{6} \Rightarrow -\frac{1}{2} < \sin 2\alpha \leq 1$

$-\frac{1}{2} < \frac{m-1}{F} \leq 1 \Rightarrow -2 < m-1 \leq F$
 $\boxed{-1 < m \leq F+1}$

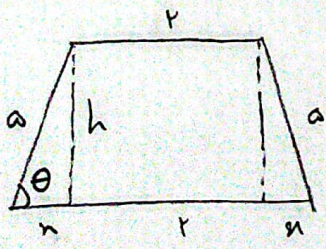


$\frac{1}{\sin^2 \alpha + \cos^2 \alpha} = -\frac{r}{F}$, $\tan \alpha + \cot \alpha = -\frac{r}{F}$

$\tan \alpha < \cot \alpha < F \Rightarrow -\frac{r}{F} < \alpha < F \Rightarrow \sin^2 \alpha = -\frac{r}{F} \Rightarrow 1 + \sin^2 \alpha = \frac{1-r}{F}$
 $= \cos^2 \alpha + \sin^2 \alpha + \sin^2 \alpha = \frac{1-r}{F} \Rightarrow (\sin \alpha + \cos \alpha)^2 = \frac{1-r}{F} \Rightarrow \sin \alpha + \cos \alpha = \pm \frac{\sqrt{1-r}}{\sqrt{F}}$

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

برای آرزوی مسدود شدن این پایه ریموت و هر سال به ترتیب 2، 5 است. این 4، $\cos \theta = .4$ است. این 4، θ است.



$\cos \theta = \frac{4}{10}$, $\cos = \frac{4}{10} = \frac{n}{a} \Rightarrow n = 4$
 $\sin \theta = \frac{8}{10} \Rightarrow \frac{8}{10} = \frac{h}{a} \Rightarrow h = 8$

$S = \frac{(r+n) \times h}{2} = \boxed{13}$

چون $\cos(180^\circ) = -1$, $\tan(180^\circ) = 0$, $\sin(180^\circ) = 0$, $\cos(180^\circ) = -1$

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

$= -\cot 10^\circ \times \tan 10^\circ - \sin 10^\circ \times (-\sin 10^\circ) = -1 + \sin^2 10^\circ = -\cos^2 10^\circ$

$k \cos^2 10^\circ = -\cos^2 10^\circ \Rightarrow \boxed{k = -1}$

؟ $\cos(\pi) = \sqrt{r} \cos(\pi_0) \sin(\pi r) - \sqrt{r} \sin(\pi r) \cos(\pi r) = \dots$

$$\frac{\sqrt{r} \times \left(-\frac{\sqrt{r}}{r}\right) \times \sin\left(\frac{\pi}{r} - \pi\right) - \sqrt{r} \left(\frac{\sqrt{r}}{r}\right) \times \cos\left(\pi - \pi\right)}{\cos \pi} = \frac{-\frac{r}{r} \times (-\cos \pi) - \frac{r}{r} \times (-\cos \pi)}{\cos \pi}$$

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$$\frac{\frac{r}{r} \cos \pi + \cos \pi}{\cos \pi} = \frac{\frac{r}{r} \cos \pi}{\cos \pi} = \left| \frac{r}{r} \right|$$

؟ $f(\frac{\pi}{r})$... $f(\pi) = 14 \cos^r(\pi) \cos^r(\pi) \cos^r(\pi) \cos^r(\pi) = 1$

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

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$$f(\pi) = (1 + \cos \pi) \times (1 + \cos \pi) \times (1 + \cos \pi) \times (1 + \cos \pi)$$

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$$f(\pi) = \left(1 + \frac{\sqrt{r}}{r}\right) \left(1 + \frac{1}{r}\right) \left(1 - \frac{1}{r}\right) \left(1 - \frac{1}{r}\right) = \sqrt{\frac{9 + 4\sqrt{r}}{19}}$$

؟ $\tan(\frac{\pi}{r})$... $\frac{1 - \sin \pi}{1 + \sin \pi} = r$

$$1 - \sin \pi = r + r \sin \pi$$

$$\cos \pi = -r \rightarrow \sin \pi = -\frac{r}{10} \\ \cos \pi = -\frac{r}{10}$$

$$\tan \pi = \frac{r \tan \frac{\pi}{r}}{1 - \tan^2 \frac{\pi}{r}} \Rightarrow \frac{r}{r} = \frac{r \tan \frac{\pi}{r}}{1 - \tan^2 \frac{\pi}{r}}$$

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$$r - r \tan^2 \frac{\pi}{r} = 1 \tan \frac{\pi}{r} \Rightarrow r \tan^2 \frac{\pi}{r} + 1 \tan \frac{\pi}{r} - r = 0 \Rightarrow \tan^2 \frac{\pi}{r} + 1 \tan \frac{\pi}{r} - r = 0$$

$$\left(\tan \frac{\pi}{r} - \frac{1}{r}\right) \left(\tan \frac{\pi}{r} + r\right) \Rightarrow \tan \frac{\pi}{r} = \frac{1}{r} \times \left| \tan \frac{\pi}{r} = -r \right|$$

؟ $k \cot(\frac{\theta}{r})$... $\frac{\sin \theta}{1 - \cos \theta} + \frac{1 + \cos \theta}{\sin \theta}$

$$\frac{\sin \theta}{1 + \cos \theta} = \frac{1 - \cos \theta}{\sin \theta} = \tan\left(\frac{\alpha}{r}\right) \Rightarrow \frac{1 + \cos \theta}{\sin \theta} = \frac{\sin \theta}{1 - \cos \theta} = \cot\left(\frac{\alpha}{r}\right)$$

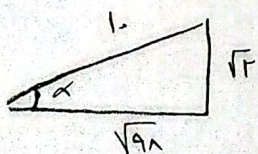
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$$\frac{\sin \theta}{1 - \cos \theta} = \frac{1 + \cos \theta}{\sin \theta} = \cot\left(\frac{\theta}{r}\right) + \cot\left(\frac{\theta}{r}\right) = r \cot\left(\frac{\theta}{r}\right) = k \cot\left(\frac{\theta}{r}\right) = r \cot\left(\frac{\theta}{r}\right)$$

$$\boxed{k = r}$$

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؟ $\cos\left(\frac{11\pi}{r} + \alpha\right)$... $\sin \alpha = \frac{\sqrt{r}}{10}$



$$\cos \alpha = \pm \frac{\sqrt{10}}{10}$$

$$f(\alpha) \Rightarrow \left| \cos \alpha = -\frac{\sqrt{10}}{10} \right|$$

$$\cos\left(\frac{11\pi}{r} + \alpha\right) = \cos\left(\pi - \frac{\pi}{2} + \alpha\right) = \cos\left(\pi - \left(\frac{\pi}{2} - \alpha\right)\right)$$

$$= -\cos\left(\frac{\pi}{2} - \alpha\right) = -\left(\cos \frac{\pi}{2} \cos \alpha - \sin \frac{\pi}{2} \sin \alpha\right) =$$

$$= -\left(\frac{\sqrt{r}}{r} \times -\frac{\sqrt{10}}{10} + \frac{\sqrt{r}}{r} \times \frac{\sqrt{r}}{10}\right) = -\left(-\frac{10+r}{10}\right) = \left|\frac{r}{10}\right|$$

Sin >
Cos < 0

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