



$$r_m^2 = r_m \times r_m \times \sin A = r_m^2$$

$$r_m = 1 \text{ cm} = 1 \cdot \sqrt{11} = \sqrt{11} \text{ cm}$$

$$r_m^2 = \Delta \varepsilon \rightarrow m^2 = h \rightarrow m = \sqrt{h}$$

09:00

$$\varepsilon \times v \times \frac{1}{r} \times \sin A = l \varepsilon \sin A$$

10:00

$$\Delta \times v \times \frac{1}{r} \times \sin A = \frac{r \Delta \sin A}{r}$$

11:00

$$\frac{r \Delta \sin A}{r} - \frac{r \Delta \sin A}{r} = l \cdot v \Delta$$

12:00

$$\frac{v}{r} \sin A = \frac{v}{\varepsilon} \rightarrow A = 90^\circ \rightarrow \sin A = \frac{\sqrt{\varepsilon}}{\varepsilon}$$

13:00

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

14:00

$$\cos + \frac{\sin}{\cos} \rightarrow \cos \alpha \rightarrow \text{ربع سوم}$$

15:00

$$\sin \rightarrow - \rightarrow \sin \alpha$$

16:00

$$\tan(110^\circ - \alpha) = \frac{1}{\tan \alpha} = \frac{r}{\varepsilon} \rightarrow -\tan \alpha = \frac{r}{\varepsilon} \rightarrow \tan \alpha = -\frac{r}{\varepsilon}$$

17:00

$$\cos \alpha = -\frac{\varepsilon}{r}$$

18:00

$$\frac{r \cos(170^\circ - \alpha) - r \sin(110^\circ - \alpha)}{\sin(110^\circ + \alpha) - \cos(170^\circ - \alpha)} = \frac{-r \sin \alpha - r \sin \alpha}{-\sin \alpha - \sin \alpha} = \frac{r}{r}$$

19:00

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

20:00

$$\frac{r + \sqrt{r - \varepsilon}}{r} \rightarrow \frac{r + \sqrt{r - \varepsilon}}{r} = \frac{r + \varepsilon \sqrt{r}}{r}$$



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

$$\frac{-2m \pm \sqrt{m^2 - 1}}{m^2 - 1} \rightarrow -2m = \sqrt{m^2 - 1} - \sqrt{m^2 - 1} \rightarrow \sqrt{m^2 - 1} + 2m - \sqrt{m^2 - 1} = 0$$

$$\left| \frac{1}{m} + \frac{m}{\sqrt{m^2 - 1}} \right| = \frac{\epsilon \sqrt{m^2 - 1}}{m}$$

$$\begin{cases} \frac{-2 + \epsilon}{2\sqrt{m^2 - 1}} = \frac{1}{\sqrt{m^2 - 1}} \\ \frac{-2 - \epsilon}{2\sqrt{m^2 - 1}} = -\frac{m}{\sqrt{m^2 - 1}} \end{cases}$$

$$\tan\left(\frac{\pi}{2} - n\right) = \cot n = \frac{1 - m}{1 + m} \rightarrow \dots \rightarrow (-2, 1)$$

$$\tan(\pi/4 - \theta_0) \sin(\pi/4 + \theta_0) + \tan(\pi/4 + \theta_0) \sin(\pi/4 - \theta_0)$$

$$\left(-\frac{\sqrt{m}}{1} \times \frac{\sqrt{m}}{1}\right) + \left(-\frac{\sqrt{m}}{1} \times \frac{\sqrt{m}}{1}\right)$$

$$\frac{m}{1} + \frac{m}{1} = 2m$$