

$$S = \Delta F = ab \sin \alpha = 2h \times 3h \times \frac{1}{2} \quad (1)$$

$$h^2 = 1A \Rightarrow h = \sqrt{A}$$

$$d = 2(9\sqrt{2} + 9\sqrt{2}) = 36\sqrt{2}$$

$$S_{ABC} - S_{ADE} = 1/10 \quad \tan A = ? \quad (2)$$

$$\frac{1}{2} \times a \times v \times \sin A - \frac{1}{2} \times v \times v \times \sin A = 1/10$$

$$\frac{36\sqrt{2}}{2} \sin A - \frac{36}{2} \sin A = 1/10 \Rightarrow \frac{36}{2} (\sin A) = 1/10$$

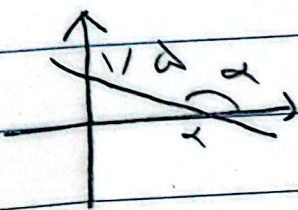
$$\sin A = \frac{a}{10} = \frac{1}{2} \quad A = \begin{cases} 30^\circ \\ 150^\circ \end{cases}$$

$$\tan 30 = \frac{\sqrt{3}}{3}$$

$$\frac{|\sin \alpha|}{\cos \alpha} = \frac{1}{\cot \alpha} = \frac{\sin}{\cos} \Rightarrow \sin \alpha < 0 \quad (3)$$

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

$$\Rightarrow \cos \alpha < 0 \quad (4) \quad (1), (2) \Rightarrow \cos \alpha = -1/2$$



$$\tan \alpha = \frac{1/10}{-3/5} = -\frac{1}{6}$$

$$\tan(\frac{\pi}{2} - \alpha) = \cot \alpha = \frac{6}{1}$$

1/10

$$\frac{r \cos(\pi - \alpha) - r \sin(\pi - \alpha)}{\sin(\pi - \alpha) - \cos(\pi - \alpha)} = \frac{r \cos(\frac{\pi}{2} - \alpha) - r \sin(\pi - \alpha)}{\sin(\pi + \alpha) - \cos(\frac{\pi}{2} + \alpha)} \quad (5)$$

$$\frac{-r \sin \alpha - r \sin \alpha}{-\sin \alpha - \sin \alpha} = \frac{-2r \sin \alpha}{-2 \sin \alpha} = r \sqrt{A} \sin \alpha$$

$$\sin\left(\frac{\pi}{r} + \alpha\right) - \sin(\alpha - \pi) \quad (9)$$

$$|\tan^2 \alpha - 1| \quad \cos \alpha = \frac{r}{\sqrt{a}}$$

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

$$\Rightarrow \tan = \frac{-\sqrt{a}}{r} = \frac{\sqrt{a}}{r}$$

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

$$\sin \alpha = r \cos \alpha \rightarrow \cos \alpha = ?$$

$$\cos^2 \alpha = 1 - \sin^2 \alpha \rightarrow \cos^2 \alpha = 1 - r^2 \cos^2 \alpha$$

$$\cos^2 \alpha = 1 \quad \cos^2 \alpha = \frac{1}{a} \Rightarrow \cos \alpha = \pm \frac{1}{\sqrt{a}} \quad (5)$$

رجع سوس $\rightarrow \frac{-1}{\sqrt{a}}$

$$r m^2 + (m^2 - 1) y = r \rightarrow y = \frac{-r m}{m^2 - 1} x + r \quad (1)$$

$$\tan \theta = \frac{\sqrt{r}}{r} = \frac{-r m}{m^2 - 1} \quad \sqrt{r} m^2 - \sqrt{r} = -r m$$

$$\rightarrow \sqrt{r} m^2 + r m - \sqrt{r} = 0 \rightarrow m^2 + r m - \sqrt{r} = 0$$

$$\begin{cases} m = \frac{+\sqrt{r}}{r} \\ m = -\sqrt{r} \end{cases} \quad \frac{\sqrt{r}}{r} + \frac{r\sqrt{r}}{r} = \frac{r\sqrt{r}}{r}$$

$$-\frac{\pi}{r} < \alpha < \frac{\pi}{r} \rightarrow -\frac{\pi}{r} < -\alpha < \frac{\pi}{r} \rightarrow \frac{\pi}{r} - \alpha < \frac{\pi}{r} \quad (5)$$

$$\tan(\pi - \alpha) > 0 \Rightarrow \frac{-r}{r+m} > 0 \quad \frac{-r}{-r+m}$$

$$(-r, 1)$$

10

$$\tan(\gamma_{00}) \cos(\gamma_{10}) + \tan(\delta_{10}) \sin(\delta_{10})$$

$$\tan(\gamma_{00} - \gamma_{10}) \cos(\gamma_{10} - \gamma_{10}) + \tan(\delta_{10} - \delta_{10}) \sin(\delta_{10} - \delta_{10}) =$$

$$\tan\left(\gamma_{10} - \frac{\pi}{2}\right) \cos\left(\frac{\pi}{2} - \frac{\pi}{2}\right) + \tan\left(\frac{\pi}{2} - \frac{\pi}{2}\right) \sin\left(\frac{\pi}{2} - \frac{\pi}{2}\right)$$

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

$$= -\tan\frac{\pi}{2} \left(\underbrace{\sin\frac{\pi}{2} - \sin\frac{\pi}{2}}_0\right) = 0$$