

$$\Lambda \cos \theta = \frac{1}{\cos^2 \theta} \Rightarrow \Lambda \cos^3 \theta = 1 \Rightarrow \cos \theta = \frac{1}{\sqrt{\Lambda}} \Rightarrow \theta = \left\{ \frac{\pi}{3}, \frac{4\pi}{3} \right\} \quad (1)$$

$$2 \sin^2 \theta + 2 \cos^3 \theta = -1 \Rightarrow \cos^3 \theta + \Lambda \cos^3 \theta - 2 \cos \theta + 1 = 0 \quad (2)$$

$$\Rightarrow (\cos \theta + 1)(\Lambda \cos^2 \theta - 1^2 \cos \theta + 1) = 0$$

جواب ندارد!
 $\cos \theta = -1 \Rightarrow \cos \theta = \pm 1 \Rightarrow \theta = \pi$

$$2 \sin \theta (1 - 2 \sin^2 \theta) + \sin \theta = 1 \quad (3)$$

$$\Rightarrow 2 \sin^3 \theta - 2 \sin \theta + 1 = 0 \Rightarrow (\sin \theta + 1)(2 \sin^2 \theta - 2 \sin \theta + 1) = 0$$

$\sin \theta = -1 \Rightarrow \theta = \frac{3\pi}{2}$
 $\sin \theta = \frac{1}{2} \Rightarrow \theta = \frac{\pi}{6}, \frac{5\pi}{6}$

(5) (3) $\Rightarrow \theta = \left\{ \frac{3\pi}{2}, \frac{\pi}{6}, \frac{5\pi}{6} \right\}$

$$\frac{1}{\sin(\theta + \frac{\pi}{2})} + \frac{1}{\cos(\theta + \frac{\pi}{2})} = \frac{1}{\cos \theta} - \frac{1}{\sin \theta} \quad (4)$$

$$\Rightarrow \frac{\sin \theta - \cos \theta}{\cos^2 \theta \sin \theta} \Rightarrow 2 \sin^2 \theta \cos^2 \theta = \cos^2 \theta = 0$$

$$\cos^2 \theta (\cos^2 \theta - 1) = 0$$

خارج می کشیم و می بینیم

$$\sin^2 \theta = \frac{1}{2} \Rightarrow \theta = \left\{ \frac{\pi}{4}, \frac{3\pi}{4} \right\}$$

$$\cos^2 \theta = \sin^2 \theta \neq 0 \Rightarrow \theta = \left\{ \frac{\pi}{4}, \frac{3\pi}{4} \right\}$$

با راد، راحت تر
 صیغه تنگه دانه مثل دانه بانه

$$\Rightarrow \Delta \theta = \frac{3\pi}{4} - \frac{\pi}{4} = \frac{\pi}{2} \Rightarrow \tan \frac{3\pi}{4} = -\tan \frac{\pi}{4} = (-\sqrt{3})$$

SUBJECT :

$$\sin\left(u + \frac{\pi}{5}\right)$$

DATE :

$$\sin\left(u + \frac{\pi}{5}\right) \cos\left(u - \frac{\pi}{5}\right) = \sin^2\left(u + \frac{\pi}{5}\right)$$

(3)

$$\Rightarrow \sin\left(u + \frac{\pi}{5}\right) = \pm 1 \Rightarrow u = k\pi + \frac{\pi}{5} \Rightarrow u = \left\{\frac{\pi}{5}, u = \frac{7\pi}{5}\right\}$$

$$\sin u + \sqrt{r} \cos u = r \sin\left(u + \frac{\pi}{5}\right) = \sqrt{r} \Rightarrow \sin\left(u + \frac{\pi}{5}\right) = \frac{\sqrt{r}}{r}$$

(V)

$$\Rightarrow u + \frac{\pi}{5} = r k \pi + \frac{\pi}{5} \Rightarrow u = \left\{-\frac{\pi}{r}, \frac{\pi}{r}, \frac{2\pi}{r}, \frac{3\pi}{r}\right\}$$

$$u + \frac{\pi}{5} = r k \pi + \frac{4\pi}{5}$$

$$-\frac{\pi}{r} \sin u \cos u = 1 \Rightarrow -r \sin^2 u = 1 \Rightarrow \sin^2 u = \frac{1}{r}$$

(A)

$$\Rightarrow r u = r k \pi + \frac{4\pi}{5} \Rightarrow u = \frac{4\pi}{5}, \frac{14\pi}{5} \quad (+) \Rightarrow \left(\frac{4\pi}{5}\right)$$

$$r u = r k \pi + \frac{11\pi}{5} \Rightarrow u = \frac{11\pi}{5}, \frac{21\pi}{5}$$

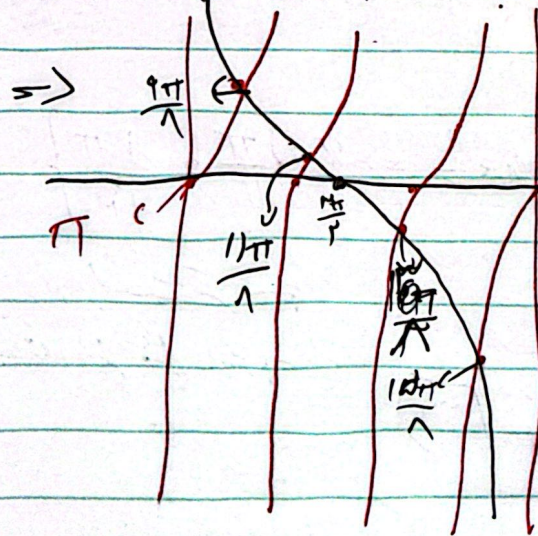
$$r \cos u + r \sin u = \frac{1}{r} \quad r \sin u$$

(9)

$$\Rightarrow \frac{1}{r} \sin^2 u = \frac{\sin^2 u}{r} \Rightarrow \sin^2 u = \sin^2 \frac{\pi}{5} \Rightarrow u_{\max} = \left(\frac{4\pi}{5}\right)$$

$$\tan^2 u \tan^2 u = 1 \Rightarrow \tan^2 u = \cot^2 u$$

$$\Rightarrow u = \left\{\frac{9\pi}{11}, \frac{11\pi}{11}, \frac{13\pi}{11}, \frac{15\pi}{11}\right\}$$



$$\Sigma u = \left(\frac{4\pi}{5}\right)$$

SUBJECT :

DATE :

$$\begin{aligned} \cos\left(\frac{\pi}{2}\right) \cdot \frac{1}{\sqrt{r}} &\Rightarrow \frac{1}{\sqrt{r}} (\cos\theta - \sin\theta) \cdot \frac{1}{\sqrt{r}} \Rightarrow 1 - \sin\theta \cdot \frac{r}{r} \quad (1) \\ \Rightarrow \cos\theta - \sin\theta &= \frac{\sqrt{r}}{r} \Rightarrow \frac{\sqrt{r}}{r} m - r \sin\theta = \frac{r}{r} \\ \Rightarrow \frac{m}{r} - r \sin\theta &= 1 \quad (m \text{ is } r) \end{aligned}$$

