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① $h = \frac{1}{r} a$ $S = a \sin \theta$

$a = \frac{r}{\sin \theta} b$ $\frac{a}{b} = \frac{r}{\sin \theta}$

$h = \frac{1}{r} \times \frac{r}{\sin \theta} b = \frac{1}{\sin \theta} b$

$d \propto \frac{1}{r} b^2 \rightarrow d \propto r^{-2} b^2$

$b^2 \propto r^2 \quad r \propto \frac{1}{r}$

$(4\sqrt{r} + 4\sqrt{r}) = 10\sqrt{r} \rightarrow 10\sqrt{r} \propto r^2 \propto \frac{1}{r}$

②

$a = \frac{r}{\sin \theta} \times 9\sqrt{r}$
 $\Rightarrow a = 4\sqrt{r}$
 $b = 9\sqrt{r}$

$S_{ABC} = \frac{1}{2} \times a \times b \times \sin \hat{A}$

$D = \frac{1}{2} \times a \times b \times \sin A = 1, \sqrt{a}$

$S_{ADE} = \frac{1}{2} \times r \times r \times \sin \hat{A}$

$\sin \hat{A} = \frac{1}{r} \rightarrow \tan \hat{A} = \frac{\sqrt{r}}{r}$

③

$\frac{1}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha} \Rightarrow \frac{1}{\cos \alpha} = \tan \alpha$

$|\cos \alpha| = \cos \alpha$

$\frac{|\sin \alpha|}{\cos \alpha} = \tan \alpha$

$\frac{|\sin \alpha|}{\cos \alpha} = \frac{\sin \alpha}{\cos \alpha}$ (Baharan)

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④ $\tan(\pi - \alpha) = \frac{y}{x} \rightarrow \tan \alpha = -\frac{y}{x}$

$\tan(\frac{\pi}{r} - \alpha) = \cot \alpha$ (5)

$\tan(\frac{\pi}{r} - \alpha) = \cot \alpha = \frac{1}{\tan \alpha} = \frac{1}{-\frac{y}{x}} = -\frac{x}{y}$

⑤ $\frac{r \cos(\pi - \alpha) - r \sin(\pi - \alpha)}{\sin(r\pi) - \cos(r\pi)}$

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

$\frac{r \cos \alpha - r \sin \alpha}{-\sin r\pi - \cos r\pi} = \frac{r \cos \alpha - r \sin \alpha}{-\sin r\pi - \cos r\pi}$

⑥ $\cos \alpha = \frac{y}{r} \rightarrow \begin{cases} \sin \alpha = \frac{\sqrt{r^2 - y^2}}{r} \\ \tan \alpha = \frac{\sqrt{r^2 - y^2}}{y} \end{cases}$

$\frac{\cos \alpha + \sin \alpha}{|\tan(\alpha) - 1|} = \frac{\frac{y}{r} + \left(-\frac{\sqrt{r^2 - y^2}}{r}\right)}{\left|\frac{\sqrt{r^2 - y^2}}{y} - 1\right|} = \frac{\frac{y - \sqrt{r^2 - y^2}}{r}}{\frac{\sqrt{r^2 - y^2} - y}{y}}$

⑦ $\sin \alpha = \frac{y}{r} \rightarrow \frac{\sin^2 \alpha + \cos^2 \alpha = 1}{\cos^2 \alpha + \cos^2 \alpha = 1}$

$\cos^2 \alpha = 1$

$\cos^2 \alpha = 1 \rightarrow \cos \alpha = -\frac{\sqrt{r^2 - y^2}}{r}$ (5)

Baharan

(A)

$$y_s = \frac{-v_m}{m^2 - 1} x + v$$

$$\tan \theta_0 = \sqrt{\mu}$$

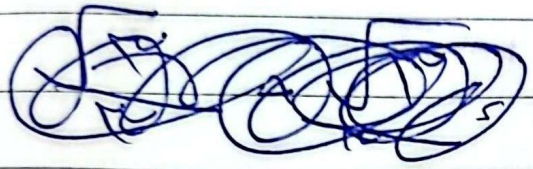
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NOTE BOOK

$$= \frac{-v_m}{m^2 - 1} \cdot \sqrt{\mu}$$

$$\sqrt{\mu} m^2 + 1 \cdot m - \sqrt{\mu} = 0$$



$$\frac{-1 + \sqrt{\mu}}{1 - \sqrt{\mu}} \cdot \sqrt{\mu}$$

$$\frac{\sqrt{\mu}}{1} + \sqrt{\mu} \cdot \frac{\sqrt{\mu}}{1 - \sqrt{\mu}}$$

$$\tan\left(\frac{\pi}{4} - \left(-\frac{\pi}{4}\right)\right) = \tan\left(\frac{\pi}{4}\right)$$

$$\tan\left(\frac{\pi}{4} - \frac{\pi}{4}\right) = \tan 0 = 0$$

$$m_s \left[-v(m < 1) \right]$$

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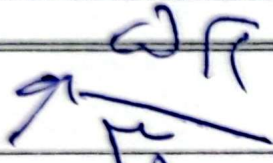
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$$\tan(\mu_{00}) \cos(\mu_1) + \tan(\mu_2) \sin(\mu_2)$$

$$\sin(-\sqrt{\mu}) \left(-\frac{\sqrt{\mu}}{\mu}\right) + \left(-\sqrt{\mu}\right) \left(\frac{\sqrt{\mu}}{\mu}\right)$$

$$\sin \frac{\mu}{\mu} - \frac{\mu}{\mu} = 0$$