

رئیس نویسی

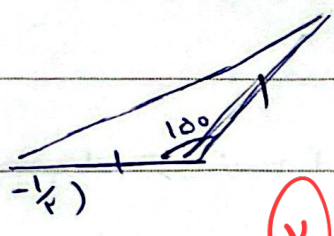
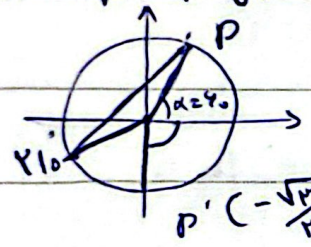
① $\frac{a \sin \frac{\pi}{4} + b \cos \frac{\pi}{4}}{a \sin \frac{11\pi}{4} + b \cos \frac{11\pi}{4}} = \tan \frac{\pi}{4}$



$\rightarrow \frac{a(-\frac{\sqrt{r}}{r}) + b(-\frac{\sqrt{r}}{r})}{a(-\frac{1}{r}) + b(\frac{1}{r})} = \frac{-\sqrt{r}}{r} \rightarrow \frac{\frac{\sqrt{r}}{r}(a+b)}{\frac{1}{r}(b-a)} = \frac{-\sqrt{r}}{r}$ (y)

$ra + rb = b - a \rightarrow ra = -rb \rightarrow \frac{b}{a} = -\frac{r}{r} = -1$

② $P(\frac{1}{r}, y) \xrightarrow{\text{ایستادگی}} P(\frac{1}{r}, \frac{\sqrt{r}}{r}) \rightarrow \alpha = 45^\circ$



$PP'^2 = ((\frac{1}{r} + \frac{\sqrt{r}}{r})^2 + (\frac{1}{r} + \frac{\sqrt{r}}{r})^2)$

(y) $PP'^2 = \frac{1}{r} + \frac{r}{r} + \frac{\sqrt{r}}{r} + \frac{1}{r} + \frac{r}{r} + \frac{\sqrt{r}}{r}$

$PP'^2 = 1 + \frac{\sqrt{r}}{r} + 1 + \frac{\sqrt{r}}{r} = 2 + \frac{2\sqrt{r}}{r}$

$\rightarrow PP = 1 + 1 + \sqrt{2 + \frac{2\sqrt{r}}{r}} = \boxed{2 + \sqrt{2 + \frac{2\sqrt{r}}{r}}}$ ✓

③ $\frac{\pi}{\alpha} = \frac{\pi}{\alpha_0} \rightarrow \frac{\pi}{\alpha} = \frac{\pi}{\alpha_0} \rightarrow \alpha = \alpha_0$ (y)

~~نویس~~ $\xrightarrow{\text{دسته ۱}} r: \alpha_0$ ✓

④ $|\Delta OM - r_0 h| = r_0 \rightarrow \Delta OM = 110 = \boxed{r_{\min}}$ ✓

$|\Delta OM - 90| = r_0 \rightarrow \Delta OM = 90 \sim m = 12/10$ (x)

Arman

$$1 \leq p_m \leq 14 \rightarrow \frac{1}{4} < m \leq 1$$

Jan 10th 20/10

$$1 - \frac{K}{F} = -r - \frac{q}{F} \rightarrow \frac{-K}{F} = -\frac{rF}{F}$$

$$1 - K \tan \theta = \mu$$

$$-1 - \gamma \tan \angle \Delta$$

V

10

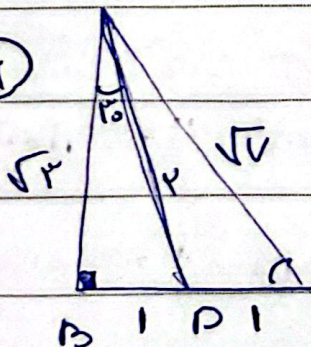
$$L = \frac{9\pi}{8} \times R'$$

B =

$$\rightarrow \frac{R_a}{R_b} = \frac{q}{\mu} = \boxed{\mu} \rightarrow \textcircled{A}$$

9

$$\sin \alpha \approx 0$$

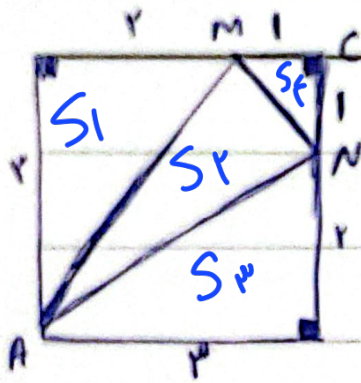


$$\frac{\sqrt{r} \times BC \cdot \sqrt{r}}{r} \rightarrow BC = 1$$

$$\sin PC = P \sin C \cos C$$

$$= r \times \frac{\sqrt{r}}{\sqrt{v}} \times \frac{r}{\sqrt{v}} = \boxed{\frac{r\sqrt{r}}{v}}$$

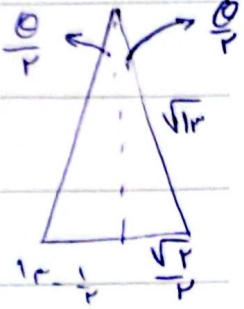
Arman



$$NA = MA = \sqrt{t+9} = \sqrt{13} \checkmark$$

$$MN = \sqrt{1+1} = \sqrt{2}$$

~~UBC~~



$$\sin \theta = \frac{1}{\sqrt{2}} \sin \phi \cos \phi$$

$$\sin \theta = \frac{1}{\sqrt{2}} \left(\frac{\sqrt{2}}{2} \right) \times \left(\frac{\sqrt{2}}{2} \right) = \frac{\sqrt{2}}{4} = \frac{1}{2\sqrt{2}}$$

$$S_{pr} = S_I + S_{II} + S_{III} + S_{IV}$$

$$q = \frac{1}{2} + S_{II} + \frac{1}{2} + \frac{1}{2}$$

$$S_{II} = \frac{1}{2} \rightarrow \frac{1}{2} = \frac{1}{2} \times \sqrt{13} \times \sqrt{13} \sin \theta$$

$$\sin \theta = \frac{1}{13}$$

Arman