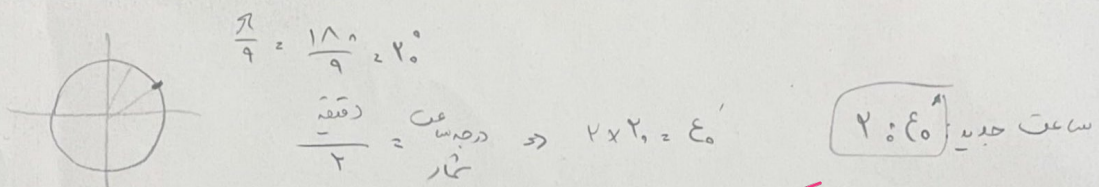
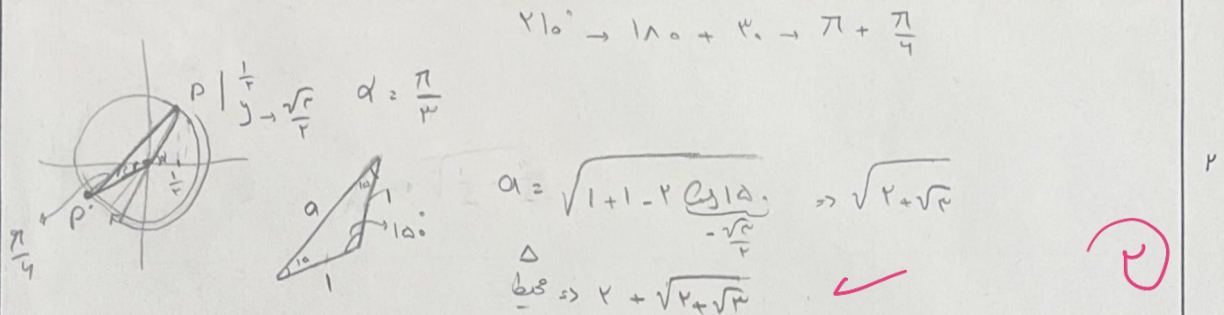


$$\frac{a \sin \frac{\pi}{4} + b \cos \frac{\pi}{4}}{a \sin \frac{11\pi}{4} + b \cos \frac{\pi}{2}} = \frac{-\frac{\sqrt{2}}{2}a - \frac{\sqrt{2}}{2}b}{-\frac{1}{2}a + \frac{1}{2}b} = \frac{-\frac{\sqrt{2}}{2}(a+b)}{-\frac{1}{2}(a-b)} = -\frac{\sqrt{2}}{2}$$

$$\Rightarrow \frac{a+b}{a-b} = -\frac{1}{\sqrt{2}} \Rightarrow 3a+3b = -a+b \quad \frac{b}{a} = \frac{-2a}{a} = -2 \quad \text{جواب}$$

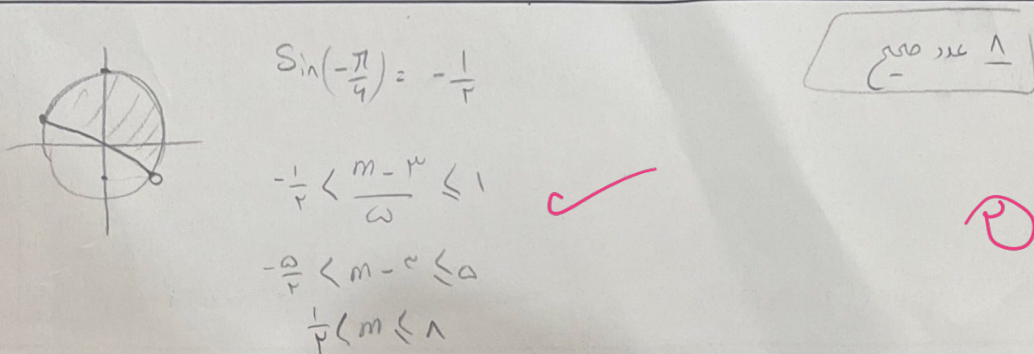


$v_0 = \left| \frac{q_0}{m_0 h} - \omega_1 \Delta M \right| \rightarrow v_0 = |q_0 - \omega_1 \Delta M|$

$v_0 \geq \omega_1 \Delta M \Rightarrow M = \frac{v_0}{\omega_1} \rightarrow 1:05$

$110 = \omega_1 \Delta M \rightarrow M = 20 \rightarrow 1:25$

$3:20$



$$\frac{\sin(1-a) + K \cos(1-a)}{\cos(1-a) + r \sin(1-a)} = \frac{\cos 1a - K \sin 1a}{-\cos 1a - r \sin 1a} \xrightarrow{\div \cos} \frac{1 - K \tan 1a}{-1 - r \tan 1a} = r$$

$$\Rightarrow \frac{1 - \frac{1}{2}K}{-1 - \frac{1}{r}} = r \Rightarrow -\frac{9}{r} = 1 - \frac{1}{2}K \Rightarrow \frac{1}{2}K = \frac{11}{r} \Rightarrow \boxed{K = 22}$$

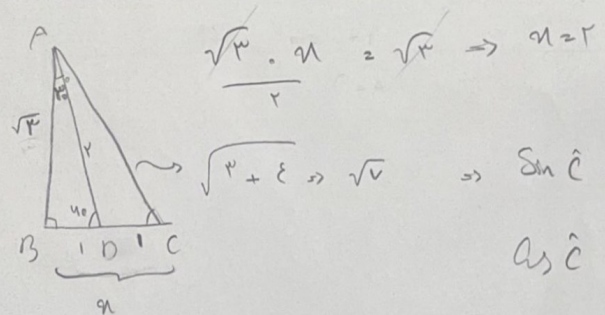
$$\tan\left(\frac{\pi}{r} - \alpha\right) = \cot(\pi - \alpha) \Rightarrow \frac{\cot \alpha + \cot \pi}{\tan \alpha - r \tan \pi} = \frac{r \cot \alpha}{-\tan \alpha} \Rightarrow \frac{r}{-\tan^2 \alpha} = \frac{r}{-\frac{1}{4}}$$

$$\cot\left(\frac{3\pi}{r} - \alpha\right) + r \tan(\pi - \alpha) \Rightarrow \frac{1 - \cos \alpha}{1 + \cos \alpha} = \frac{r \sin^2 \frac{\pi}{r}}{r \cos^2 \frac{\pi}{r}} \Rightarrow \tan^2 \frac{\pi}{r} = r \Rightarrow \tan \alpha = \frac{r \tan \alpha}{1 - \tan^2 \alpha} \Rightarrow \tan \alpha = \frac{r \times r}{1 - r} = \frac{r}{r-1}$$

راه حل یازدهمین صفحه نوشته شده است

$$\frac{10\pi}{1\pi} = \frac{R}{\pi} \Rightarrow \frac{4}{10}\pi \Rightarrow \theta = \frac{L}{R} \Rightarrow A \rightarrow \frac{4\pi}{10} = \frac{L}{R_A} \rightarrow R_A = \frac{10}{4}\pi L$$

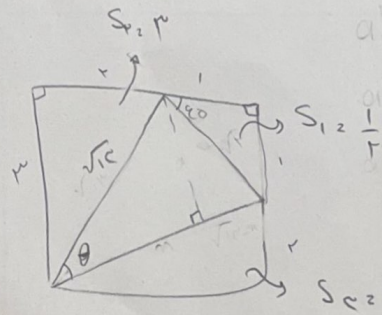
$$B \rightarrow \frac{9\pi}{10} = \frac{L}{R_B} \Rightarrow R_B = \frac{10}{9}\pi L \Rightarrow \frac{S_A}{S_B} = \left(\frac{r_A}{r_B}\right)^2 \Rightarrow \left(\frac{\frac{10}{4}\pi L}{\frac{10}{9}\pi L}\right)^2 = \left(\frac{4}{9}\right)$$



$$\frac{\sqrt{3} \cdot a}{2} = \sqrt{3} \Rightarrow a = 2$$

$$\sqrt{r^2 + 1} \Rightarrow \sqrt{r} \Rightarrow \sin \hat{C} = \frac{\sqrt{r}}{\sqrt{r}} \Rightarrow \sin 2\hat{C} = 2 \sin \hat{C} \cos \hat{C}$$

$$\cos \hat{C} = \frac{r}{\sqrt{r}} \Rightarrow \frac{r \times \sqrt{r}}{\sqrt{r}} = \frac{r}{\sqrt{r}}$$



$$a = S_{\square} - S_1 - S_2 - S_3 = S_{\Delta}$$

$$1 - r - r - \frac{1}{r} = \frac{a}{r}$$

$$\frac{1}{r} \times \sqrt{r} \times \sqrt{r} = \sin \theta \Rightarrow \frac{1}{r}$$

$$\boxed{\sin \theta = \frac{a}{1r}} \text{ جواب}$$

$$1 - \cos n = \gamma + \gamma \cos n \rightarrow \cos n = -\frac{1}{\gamma}$$

$$\frac{\cot n + \cot n}{\tan n - \gamma \tan n} = \frac{\gamma \cot n}{-\tan n} = -\gamma \cot n$$


 $\rightarrow \cot n = -\frac{1}{\sqrt{2}} \rightarrow -\gamma \cot n = -\gamma \times \frac{1}{\sqrt{2}} = -\frac{1}{2}$