

برایان باقی

$$\frac{2V}{240} = \frac{\pi}{\pi} \Rightarrow \frac{2V\pi}{240} = \pi \Rightarrow \pi = \frac{2\pi}{240} \quad (1) \text{ الز}$$

$$\frac{120}{240} = \frac{\pi}{\pi} \Rightarrow \frac{120\pi}{240} = \pi \Rightarrow \pi = \frac{120\pi}{240} \quad (2)$$

$$\frac{0\pi}{12} = \frac{\pi}{240} \Rightarrow \frac{240 \times \frac{0\pi}{12}}{\pi} = \pi \Rightarrow \frac{120\pi}{\pi} = 120 = \pi \quad (3)$$

$$\frac{8\pi}{9} = \frac{\pi}{240} \quad \frac{240 \times \frac{8\pi}{9}}{\pi} = \pi \Rightarrow \pi = 190^\circ \quad (4)$$

$$\frac{120a}{9} = \frac{\pi}{240} = \frac{120a}{240} = \frac{\pi}{2} \quad \pi = \frac{120a}{10} \quad (5)$$

$$\frac{a\pi}{\pi} = \frac{y}{240} \Rightarrow \frac{240 \times a\pi}{\pi} = \pi y \quad \begin{aligned} \varepsilon \omega a \pi &= \pi y \\ y &= \varepsilon \omega a \end{aligned}$$

$$\frac{120a}{10} + \varepsilon \omega a + 10a = 110 \Rightarrow \frac{120a}{10} + 10a = 110 \Rightarrow \frac{120a}{10} = 100 \Rightarrow a = \frac{100}{12} = \frac{25}{3}$$

$$\frac{1}{2} \times \frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2} \times \frac{1}{2} - 1 + 2 = -1 + 2 = 1 \quad (6) \text{ الف}$$

$$\frac{\frac{2}{9} + 1 + 2}{\sqrt{2} - \frac{\sqrt{2}}{2}} = \frac{\frac{29}{9}}{\frac{2\sqrt{2}}{2}} = \frac{29}{2\sqrt{2}} = \frac{12}{2\sqrt{2}} \quad (7)$$

$$-\frac{1}{2} \times \frac{1}{2} + \frac{\sqrt{2}}{2} \times \frac{\sqrt{2}}{2} = -\frac{1}{4} + \frac{2}{4} = \frac{1}{4}$$

$$\sin \theta = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2} \Rightarrow \theta = 45^\circ \quad \tan 45^\circ = 1 \quad (8)$$

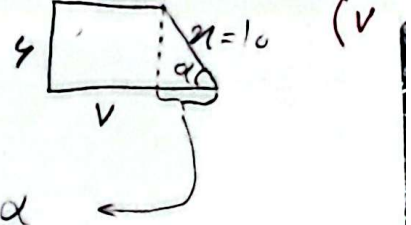
$$\frac{2 \times \frac{\sqrt{2}}{2} \left(1 - \frac{2}{9}\right)}{\left(1 - \frac{2}{9}\right) \left(1 - \frac{2}{9}\right)} = \frac{2\sqrt{2}}{\frac{4}{9}} = \sqrt{2} = \tan \theta$$

$$\theta = 45^\circ \quad (9)$$

$$\sin \theta = \omega \cos \theta \quad \frac{2(\omega \cos \theta) - \cos \theta}{\omega \cos \theta - \varepsilon \cos \theta} = \frac{1 \omega \cos \theta - \cos \theta}{\cos \theta} = \frac{1 \varepsilon \cos \theta}{\cos \theta}$$

$$\boxed{1 \varepsilon} \quad (10)$$

$$9 = \frac{9}{10} x \Rightarrow x = 10$$



$$\cos^2 \alpha = 1 - \frac{9^2}{10^2} = \frac{9}{100} \Rightarrow \cos \alpha = \frac{3}{10} \quad 10 \cos \alpha$$

$$\frac{3}{10} \times 10 = 3$$

$$\text{مساحت} = 9 + 9 + 9 + 10 = \boxed{37}$$

$$\hat{A} = 90^\circ \Rightarrow AB = 10 \times \frac{1}{2} = 5 \quad BD = \frac{\sqrt{5}}{2} \times 10 = 5\sqrt{5} \quad (1)$$

$$AB = 5, AB = BC \Rightarrow BC = 5 \quad DC = 5\sqrt{5} - 5 = 5(\sqrt{5} - 1)$$

(9 الف) ناحیه چهارم (ب) ناحیه دوم

$$\sin x = 2 \cos x \Rightarrow 9 \cos^2 x + \cos^2 x = 1 \quad (1)$$

$$\left. \begin{aligned} \Rightarrow 10 \cos^2 x &= 1 \\ \cos^2 x &= \frac{1}{10} \\ \cos x &= \frac{\sqrt{10}}{10} \end{aligned} \right\} \Rightarrow \sin^2 x = 1 - \frac{1}{10} = \frac{9}{10}$$

$$\sin x = \frac{3}{\sqrt{10}} = \frac{3\sqrt{10}}{10}$$

$$\sin x = \boxed{\frac{3\sqrt{10}}{10}}$$