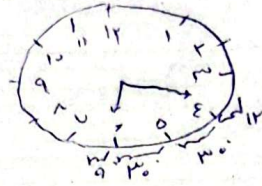


الف $\vec{u} + \vec{v}_0 + \vec{v}_0 + \vec{v}_0 + \vec{v}_0 = 10\vec{v}$ ✓

ب $a = |0/0m - 30h| = 10\vec{v}$ ✓ $15\vec{v}$ ✓



الف $\vec{u} \rightarrow 11$ ✓

ب $a = |0/0m - 30h| = 11$ ✓

الف $R^r \frac{a}{r} = q \times \frac{\pi}{4\epsilon} = \frac{12\pi}{\epsilon}$ ✓

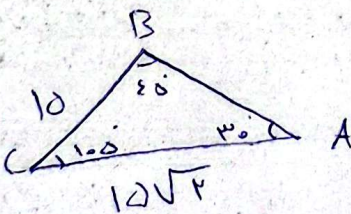
ب $Ra = \frac{\pi}{r}$

$P_{OAB} = r + ar = r(1) + \frac{\pi}{4}(1) = 1 + \frac{\pi}{4} = \frac{1+\pi}{4}$

الف $\Delta \times \frac{1}{r} \times \frac{\sqrt{r}}{r} = 10\sqrt{3}$ ✓

$C = \sqrt{a^2 + b^2 - 2ab \cos \alpha} \Rightarrow \sqrt{4\epsilon + 2\delta - (10 \times \frac{1}{r})} = \sqrt{49}$ ✓ $C = 7$

مساحت $= V + A + \Delta = 20$ ✓



$\frac{\sin A}{10} = \frac{\sin B}{10\sqrt{2}}$

$B = 45^\circ \rightarrow \frac{\pi}{4}$
 $A = 30^\circ$
 $C = 105^\circ \rightarrow \frac{7\pi}{12}$

سوال زوایا را بر حسب رادیان می‌خواهد

$$\frac{-\cancel{\tan \alpha} + r \tan \alpha}{-\cancel{\tan \alpha} - \tan \alpha} = \frac{-r \tan \alpha}{-2 \tan \alpha} = \frac{r}{2}$$

$$\frac{\pi}{18} = 12^\circ \quad \frac{\cot 12^\circ}{-r \tan 12^\circ - \cot 12^\circ} = \frac{\frac{1}{\tan 12^\circ}}{-\frac{1}{\tan 12^\circ} - \frac{1}{\tan 12^\circ}} = \frac{-1}{\tan^2 12^\circ + 1}$$

$$\frac{r \tan\left(\frac{\pi}{r} - \frac{\sqrt{r}}{r}\right) + \tan\left(\frac{\pi}{r} + \frac{\sqrt{r}}{r}\right)}{r \tan\left(\pi - \frac{\pi}{r}\right) - \tan\left(\frac{\pi}{r} - \frac{\sqrt{r}}{r}\right)} = \frac{r \cot \alpha - \cot \alpha}{-r \tan \alpha - \cot \alpha} = \frac{\cot \alpha}{-1(r \tan \alpha + \cot \alpha)} = \frac{\cot \alpha}{-r \tan \alpha - \cot \alpha}$$

$$\frac{r \sin^2 \alpha + r \cos^2 \alpha}{\sin^2 \alpha - \cos^2 \alpha} = \frac{r(\sin^2 \alpha + \cos^2 \alpha)}{\sin^2 \alpha - \cos^2 \alpha} = \frac{r}{\sin^2 \alpha - \cos^2 \alpha}$$

$$\frac{\sin^2 \alpha - r \cos^2 \alpha + 1}{\sin^2 \alpha + \cos^2 \alpha - r} = \frac{2}{1}$$

$$\sin^2 \alpha - r \cos^2 \alpha + 1 = 2$$

$$\sin^2 \alpha - r \cos^2 \alpha = 1$$

$$\sin^2 \alpha = 1 + r \cos^2 \alpha$$

$$\tan^2 \alpha = \frac{1}{r}$$

$$\cos^2 \alpha = \frac{1 + \cos 2\alpha}{2}$$

$$\cos^2 \frac{\pi}{4} = \frac{1 + \cos \frac{\pi}{2}}{2} = \frac{1 + 0}{2} = \frac{1}{2}$$

$$\sin^2 \alpha = \frac{1 - \cos 2\alpha}{2}$$

$$\sin^2 \frac{\pi}{4} = \frac{1 - \cos \frac{\pi}{2}}{2} = \frac{1 - 0}{2} = \frac{1}{2}$$

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