

تکلیف ۱۹:۵۰

کلاس: دهم، غیره

ما کجا زودتر علامه زاده



$$\frac{\omega \Sigma}{\rho} = 27^\circ$$

$$\rho \times 30^\circ = 12^\circ$$

(الف) $\Rightarrow 12^\circ + 27^\circ + 4^\circ = 153^\circ$

$$\alpha = |\omega, \omega M - \rho_0 H| = |\omega, \omega \times \omega \Sigma - \rho_0 \times 3| = 207^\circ$$

$$34^\circ - 207^\circ = 153^\circ$$

(الف) (۲)



$$\rho \times 9 = 12^\circ$$

$$\rho \times 4 = 40^\circ$$

$$\rho = \frac{12}{4} = 3^\circ$$

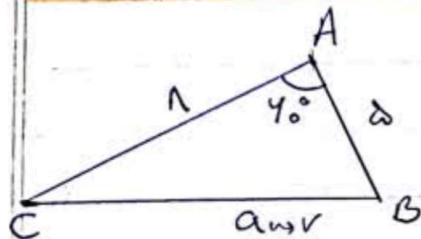
$$9 + 12 + 40 = 111^\circ$$

$$\alpha = |\omega, \omega M - \rho_0 H| = |\omega, \omega \times 11 - \rho_0 \times 9| = 111^\circ$$

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$$S_{OAB} = \frac{\alpha}{r} R^2 = \frac{\pi}{4} \times \frac{1}{r} \times R^2 = \frac{3\pi}{8} \quad (3) \text{ الف}$$

$$P_{OAB} = \alpha R + r R = \frac{\pi}{4} \times R + r \times R = \frac{\pi}{4} + 4 \quad (1)$$

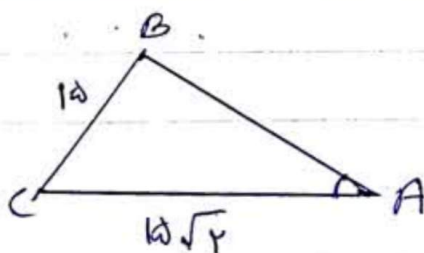


$$S = \frac{1}{2} \times 1 \times 2 \times \sin 40^\circ$$

$$S = \frac{1}{2} \times 1 \times 2 \times \frac{\sqrt{r}}{1} = 1.0\sqrt{r} \quad (2) \text{ الز}$$

$$P = r + 2 + 1 = 3 \quad (1)$$

$$a = \sqrt{4 + 1 - 2 \times 1 \times 2 \times \cos 40^\circ} = \sqrt{4.9} = 2.2$$



$$\hat{A} + \hat{B} + \hat{C} = 180^\circ$$

$$\Rightarrow \hat{A} = 90^\circ \quad (5)$$

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$\Rightarrow \frac{10}{\frac{\pi}{2}} = \frac{10\sqrt{2}}{\sin B} \Rightarrow 20 \sin B = 10\sqrt{2} \Rightarrow \sin B = \frac{\sqrt{2}}{2}$$

بما أن $\sin B = \frac{\sqrt{2}}{2}$ فإن $B = 45^\circ$ أو 135° .
لكن $B = 135^\circ$ مستحيل لأن مجموع الزوايا سيكون أكبر من 180° .
لذلك $B = 45^\circ$

$$B = 45^\circ = \frac{\pi}{4} \quad (6)$$

$$\hat{C} = 180^\circ - \hat{A} - \hat{B} \Rightarrow \hat{C} = 180^\circ - 90^\circ - 45^\circ = 45^\circ \Rightarrow \frac{D}{180} = \frac{R_{ad}}{\pi} \Rightarrow \frac{10 \times \pi}{180} = \frac{V\pi}{18} \quad (7)$$

$$\frac{\tan(\pi - \alpha) + r \tan(\pi + \alpha)}{\tan(r\pi - \alpha) - \tan(r\pi + \alpha)} = \frac{-\tan \alpha + r \tan \alpha}{-\tan \alpha - \tan \alpha} \quad (9)$$

$$= \frac{r \tan \alpha}{-r \tan \alpha} = -1$$

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$$\tan \frac{\pi}{12} = a \Rightarrow \cot \frac{\pi}{12} = \frac{1}{a}$$

$$A = \frac{r \tan 45^\circ + \tan 10^\circ}{r \tan 45^\circ - \tan 40^\circ} = \frac{r \tan(\frac{\pi}{4} + \frac{\pi}{12}) + \tan(\frac{\pi}{4} + \frac{\pi}{12})}{r \tan(\pi - \frac{\pi}{12}) - \tan(\frac{5\pi}{4} + \frac{\pi}{12})}$$

$$= \frac{r \cot a - \cot a}{-r \tan a - \cot a} = \frac{\cot a}{-r \tan a - \cot a} = \frac{\frac{1}{a}}{-ra - \frac{1}{a}}$$

$$= \frac{\frac{1}{a}}{\frac{-ra^2 - 1}{a}} = -\frac{1}{ra^2 + 1}$$

$$\frac{\sin n + \cos n}{\sin n - \cos n} + \frac{\sin n - \cos n}{\sin n + \cos n} = r \quad \text{Simplify}$$

$$\frac{(\sin n + \cos n)^2 + (\sin n - \cos n)^2}{\sin^2 n - \cos^2 n} = \frac{r(\sin^2 n + \cos^2 n)}{\sin^2 n - \cos^2 n} \quad \text{Divide by } \cos^2 n$$

$$\frac{r}{\cos^2 n} = r \Rightarrow \frac{\frac{r}{1 + \tan^2 n}}{\tan^2 n - 1} = \frac{r(1 + \tan^2 n)}{\tan^2 n - 1}$$

$$r + r \tan^2 n = r \tan^2 n - r$$

$$\boxed{a = \tan^2 n}$$

$$\frac{\sin^2 n - r \cos^2 n + 1}{\sin^2 n + r \cos^2 n - 1} = \epsilon \quad \text{Cross multiply}$$

$$= r \tan^2 n - 1 = \epsilon \Rightarrow \boxed{\tan^2 n = \frac{\epsilon}{r}}$$

$$\frac{\tan^2 n - r + \tan^2 n + 1}{\tan^2 n + r - \tan^2 n - 1} \quad (9)$$

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$$\cos(22,5^\circ)$$

110

$$\cos\left(\frac{\theta}{2}\right) = \pm \sqrt{\frac{1+\cos\theta}{2}} \Rightarrow \cos\left(\frac{45^\circ}{2}\right) = \sqrt{\frac{1+\frac{\sqrt{2}}{2}}{2}}$$

نشان می‌دهد که در ربع اول است

$$= \sqrt{\frac{2+\sqrt{2}}{4}} = \frac{\sqrt{2+\sqrt{2}}}{2}$$

$$\sin(45,5^\circ)$$

$$\sin\left(\frac{\theta}{2}\right) = \pm \sqrt{\frac{1-\cos\theta}{2}} = \sqrt{\frac{1-\cos 145^\circ}{2}} = \sqrt{\frac{1-(-\frac{\sqrt{2}}{2})}{2}}$$

نشان می‌دهد که در ربع اول است

$$= \frac{\sqrt{2+\sqrt{2}}}{2}$$

$$\sin(\theta) = \cos(90^\circ - \theta)$$

مکمل، الف زاویه‌های متمم اند $\Leftarrow$

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