

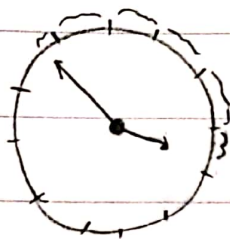
Date:

19, 25

سکون دخترا نه دهم

زهرا دهقانی کالیف شماره 19

زاویه های بین عقربه های ساعت و در ساعت ۳:۵۴:



$$3 \times 30 = 90^\circ$$

$$\frac{54}{2} = 27$$

$$1 \times 6 = 6^\circ$$

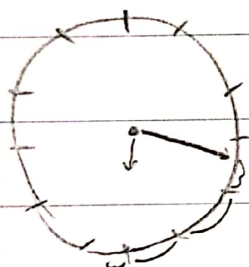
$$90^\circ + 6^\circ + 27^\circ = 123^\circ$$

(الف)

$$\alpha = |5.5M - 30H| = |5.5 \times 54 - 30 \times 3| \quad (ب)$$

$$= |297 - 90| = 207$$

$$360 - 207 = 153^\circ$$



$$4 \times 30 = 120^\circ$$

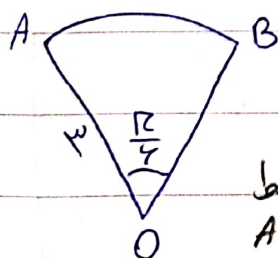
$$\frac{11}{2} = 5.5$$

$$5 \times 6 = 30^\circ \rightarrow 30 - 5.5 = 24.5$$

$$120^\circ + 24.5^\circ + 5.5^\circ = 150^\circ$$

(الف)

$$\alpha = |5.5M - 30H| = |99 - 120| = 21^\circ \quad (ب)$$



$$S_{AOB} = \frac{\alpha}{2} R^2 = \frac{\pi}{4} \times R^2 = \frac{9\pi}{12} = \frac{3\pi}{4} \quad (الف)$$

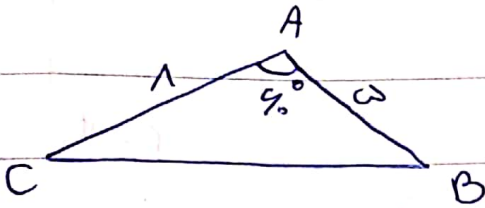
$$\begin{aligned} \text{مساحت} \quad \alpha R + 2R &= \frac{\pi}{4} \times R^2 + 2 \times R = \frac{\pi}{4} + 2 \\ &= \frac{12 + \pi}{4} \quad (ب) \end{aligned}$$

Date:

Sub:

$$S_{ABC} = \frac{1}{2} ab \sin \hat{C}$$

ع (الف)



$$\begin{aligned} & \rightarrow \frac{1}{2} \times \omega \times 1 \times \sin 4^\circ \\ & = \frac{1}{2} \times \omega \times 1 \times \frac{\sqrt{3}}{2} = 10\sqrt{3} \end{aligned}$$

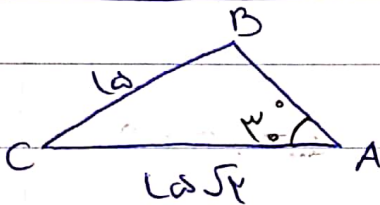
با استفاده از قانون کسینوس $\Rightarrow BC^2 = 1^2 + \omega^2 - 2 \times \omega \times 1 \times \cos 4^\circ$ (ب)

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

$$= \sqrt{19 - \epsilon}$$

$$= \sqrt{19} = \sqrt{\epsilon} \rightarrow BC = \sqrt{\epsilon}$$

$$P_{ABC} = \sqrt{\epsilon} + \omega + 1 = 20$$



با استفاده از قانون سینوس

$$\hat{B} + \hat{C} = 150^\circ$$

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

$$\hat{B} + \hat{C} = 150^\circ$$

$$\Rightarrow \hat{A} = 30^\circ$$

با استفاده از

$$\text{قانون سینوس} \Rightarrow \frac{\omega}{\sin 30^\circ} = \frac{10\sqrt{2}}{\sin \hat{B}} \rightarrow \omega = \frac{10\sqrt{2}}{\sin \hat{B}}$$

$$\omega \sin \hat{B} = 10\sqrt{2} \rightarrow \sin \hat{B} = \frac{\sqrt{2}}{2}$$

$$B = 45^\circ \quad A = 30^\circ$$

$$C = 180^\circ - 45^\circ - 30^\circ = 105^\circ$$

$$\Rightarrow B = \frac{\pi}{4}$$

$$C = \frac{\sqrt{2}\pi}{12}$$

$$\frac{\tan(\pi - \alpha) + \gamma \tan(\pi + \alpha)}{\tan(\gamma\pi - \alpha) - \tan(\gamma\pi + \alpha)}$$

$$= \frac{-\tan \alpha + \gamma \tan \alpha}{-\tan \alpha - (+\tan \alpha)} = \frac{\gamma \tan \alpha}{-\gamma \tan \alpha} = -1$$

$$A = \frac{\gamma \tan \gamma \omega^\circ + \tan \omega^\circ}{\gamma \tan \gamma \omega^\circ - \tan \omega^\circ}$$

1, 2, 3

$$\tan \frac{\pi}{1\gamma} = \alpha$$

$$\gamma \omega^\circ = \frac{\omega \pi}{1\gamma}$$

$$1 \omega^\circ = \frac{\gamma \pi}{1\gamma}$$

$$1\gamma \omega^\circ = \frac{11\pi}{1\gamma}$$

$$\gamma \omega^\circ = \frac{1\gamma \pi}{1\gamma}$$

$$\tan\left(\frac{\omega \pi}{1\gamma}\right) = \tan\left(\frac{\pi}{\gamma} - \frac{\pi}{1\gamma}\right) = \cot\left(\frac{\pi}{1\gamma}\right) = \frac{1}{\alpha}$$

$$\tan\left(\frac{\gamma \pi}{1\gamma}\right) = \tan\left(\pi - \frac{\omega \pi}{1\gamma}\right) = -\tan\left(\frac{\omega \pi}{1\gamma}\right) = -\frac{1}{\alpha}$$

$$\tan\left(\frac{11\pi}{1\gamma}\right) = -\tan\left(\frac{\pi}{\gamma}\right) = -\alpha$$

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

$$\tan\left(\frac{1\gamma \pi}{1\gamma}\right) = \tan\left(\frac{\pi}{1\gamma} + \pi\right) = \alpha$$

$$\gamma\left(\frac{1}{\alpha}\right) + \left(-\frac{1}{\alpha}\right)$$

$$\gamma(-\alpha) - \alpha$$

$$-\gamma\alpha - \frac{1}{\alpha}$$

$$-1$$

$$\gamma\alpha\gamma + 1$$

$$= \frac{\frac{1}{\alpha}}{-\gamma\alpha} = -\frac{1}{\gamma\alpha^2}$$

$$A = -\frac{1}{\gamma\alpha^2}$$

Date:

Sub:

Q. 1

$$\frac{\sin x + \cos x}{\sin x - \cos x} + \frac{\sin x - \cos x}{\sin x + \cos x} = ?$$

$$\frac{\frac{\sin x}{\cos x} + \frac{\cos x}{\cos x}}{\frac{\sin x}{\cos x} - \frac{\cos x}{\cos x}} + \frac{\frac{\sin x}{\cos x} - \frac{\cos x}{\cos x}}{\frac{\sin x}{\cos x} + \frac{\cos x}{\cos x}}$$

$$= \frac{\tan x + 1}{\tan x - 1} + \frac{\tan x - 1}{\tan x + 1} =$$

$$\frac{(\tan x + 1)(\tan x + 1) + (\tan x - 1)(\tan x - 1)}{(\tan x - 1)(\tan x + 1)}$$

$$= \frac{(\tan x + 1)^2 + (\tan x - 1)^2}{\tan^2 x - 1} = \frac{\tan^2 x + 1 + 2\tan x + \tan^2 x + 1 - 2\tan x}{\tan^2 x - 1}$$

$$= \frac{2\tan^2 x + 2}{\tan^2 x - 1} \times \frac{1}{1} \rightarrow 2\tan^2 x - 1 = 2\tan^2 x + 2$$

$$\rightarrow 2\tan^2 x - 2\tan^2 x = 2 + 1 \rightarrow \tan^2 x = \frac{3}{2}$$

Date:

Sub:

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

$$\tan^2 \alpha = 9$$

4

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

$$= \frac{\tan^2 \alpha - 1}{1} = \xi \rightarrow \tan^2 \alpha - 1 = \xi$$

$$\rightarrow \tan^2 \alpha = \xi + 1 \rightarrow \tan \alpha = \sqrt{\xi + 1}$$

5

$$\text{الف) } \cos(44, 4^\circ) = \sqrt{\frac{1 + \cos 88^\circ}{2}} = \sqrt{\frac{1 + \frac{\sqrt{2}}{2}}{2}} \quad 10$$

$$\cos(44, 4^\circ) \approx 0,92 \xi$$

$$\text{ب) } \sin(44, 4^\circ) = \sqrt{\frac{1 + \sin 88^\circ}{2}} = \sqrt{\frac{1 + \frac{\sqrt{2}}{2}}{2}}$$

$$\sin(44, 4^\circ) \approx 0,92 \xi$$