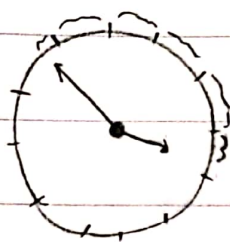


Date:

سکون دخترا نه دعو

زهرا دهقانی کالیف شماره ۱۹

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



$$6 \times 30 = 180^\circ$$

$$\frac{54}{6} = 9$$

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

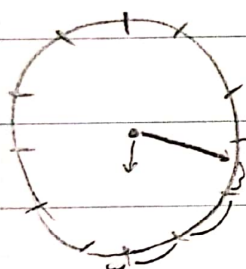
$$180^\circ + 6^\circ + 9^\circ = 195^\circ$$

(الف)

$$\alpha = |5.5M - 30H| = |5.5 \times 54 - 30 \times 3|$$

$$= |149.5 - 90| = 59.5$$

$$360 - 59.5 = 300.5^\circ$$



$$2 \times 30 = 60^\circ$$

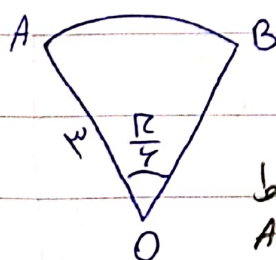
$$\frac{11}{6} = 1.83$$

$$3 \times 6 = 18^\circ \rightarrow 30 - 18 = 12^\circ$$

$$60^\circ + 12^\circ + 1.83^\circ = 73.83^\circ$$

(الف)

$$\alpha = |5.5M - 30H| = |99 - 110| = 11^\circ$$

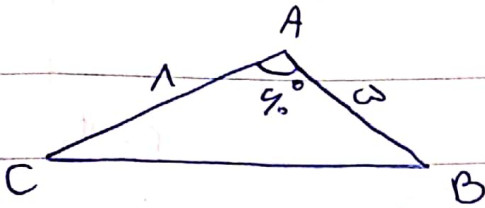


$$S_{AOB} = \frac{\alpha}{4} R^2 = \frac{\pi}{4} \times 3^2 = \frac{9\pi}{4} = \frac{3\pi}{4}$$

$$\begin{aligned} \text{مساحت } AOB &= \alpha R + 2R = \frac{\pi}{4} \times 3 + 2 \times 3 = \frac{\pi}{4} + 6 \\ &= \frac{12 + \pi}{4} \end{aligned}$$

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

(الف) ع



$$\begin{aligned} & \frac{1}{2} \times 2 \times 1 \times \sin 40^\circ \\ &= \frac{1}{2} \times 2 \times 1 \times \frac{\sqrt{3}}{2} = \boxed{1.0\sqrt{3}} \end{aligned}$$

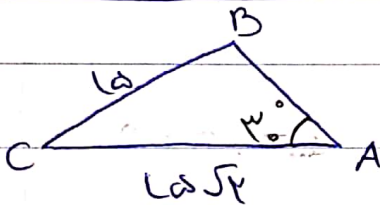
با استفاده از قانون کسینوس  $\Rightarrow BC^2 = 1^2 + 2^2 - 2 \times 2 \times 1 \times \cos 40^\circ$  (ب)

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

$$= \sqrt{19 - 2} = \sqrt{17}$$

$$= \sqrt{17} = \sqrt{17} \rightarrow BC = \sqrt{17}$$

$$A + B + C = 180^\circ \Rightarrow B + C = 180^\circ - 40^\circ = 140^\circ$$



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 قانون سینوس

$$\Rightarrow \frac{1}{\sin 30^\circ} = \frac{1}{\sin \hat{B}} \rightarrow 30 = \frac{1}{\sin \hat{B}}$$

$$30 \sin \hat{B} = 1 \rightarrow \sin \hat{B} = \frac{1}{30}$$

$$B = 1.9^\circ \quad A = 30^\circ$$

$$C = 180 - 30 - 1.9 = 148.1^\circ$$

$$\Rightarrow B = \frac{\pi}{180}$$

$$C = \frac{\pi}{180}$$

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

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

$$A = \frac{\epsilon \tan \nu \omega^\circ + \tan \iota \omega^\circ}{\epsilon \tan \iota \omega^\circ - \tan \nu \omega^\circ}$$

$$\tan \frac{\pi}{\epsilon} = \alpha$$

$$\nu \omega^\circ = \frac{\omega \pi}{\epsilon}$$

$$\iota \omega^\circ = \frac{\nu \pi}{\epsilon}$$

$$\iota \omega^\circ = \frac{\nu \pi}{\epsilon}$$

$$\nu \omega^\circ = \frac{\nu \pi}{\epsilon}$$

$$\tan\left(\frac{\omega \pi}{\epsilon}\right) = \tan\left(\frac{\pi}{\epsilon} - \frac{\pi}{\epsilon}\right)$$

$$= \cot\left(\frac{\pi}{\epsilon}\right) = \frac{1}{\alpha}$$

$$\tan\left(\frac{\nu \pi}{\epsilon}\right) = \tan\left(\pi - \frac{\omega \pi}{\epsilon}\right)$$

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

$$\tan\left(\frac{\iota \pi}{\epsilon}\right) = -\tan\left(\frac{\pi}{\epsilon}\right) = -\alpha$$

$$\tan\left(\frac{\nu \pi}{\epsilon}\right) = \tan\left(\frac{\pi}{\epsilon} + \pi\right) = \alpha$$

$$\frac{\epsilon\left(\frac{1}{\alpha}\right) + (-\frac{1}{\alpha})}{\epsilon(-\alpha) - \alpha} = \frac{\frac{1}{\alpha}}{-\epsilon \alpha} = -\frac{1}{\epsilon \alpha^2}$$

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



Date:

Sub:

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

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

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

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

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

$$= \frac{2\tan^2 x + 2}{\tan^2 x - 1} \xrightarrow{?} 2\tan^2 x - 2 = 2\tan^2 x + 2$$

$$\rightarrow 2\tan^2 x - 2\tan^2 x = 2 + 2 \rightarrow \tan^2 x = 2$$

Date:

Sub:

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

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

9

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

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

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

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

10

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

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

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