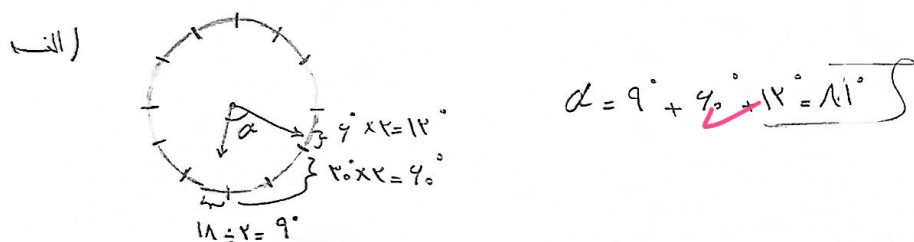


(ب) $|5, 5m - 20h| \rightarrow |(\overbrace{5, 5 \times 54}^{297}) - (\overbrace{20 \times 3}^{60})| = 237^\circ$

از ۱۸۰: $340^\circ - 207^\circ = 133^\circ$

زاویه بزرگتر از ۱۸۰



(ب) $|(\overbrace{5, 5 \times 18}^{90}) - (\overbrace{20 \times 4}^{80})| = 10^\circ$

از ۱۸۰: $340^\circ - 181^\circ = 159^\circ$

زاویه بزرگتر از ۱۸۰

(الف) $S_{OBA} = \frac{\pi}{4} \times (2)^2 = \frac{\pi}{2}$

(ب) $|AB| = \frac{\pi}{4} \times 2 = \frac{\pi}{2}$

$P_{OBA} = \frac{\pi}{4} + 2 + 2 = \frac{11 + \pi}{4}$

(الف) $S_{abc} = \frac{1}{2} ab \sin \alpha \rightarrow \frac{1}{2} \times 2 \times 1 \times \sin 45^\circ = 10\sqrt{2}$

(ب) $a = \sqrt{c^2 + b^2 - 2cb \cos \alpha} \rightarrow \sqrt{25 + 9 - 10 \cos 45^\circ} = \sqrt{29} = 7$

$P_{abc} = 1 + 2 + 7 = 10$

$\hat{A} + \hat{B} + \hat{C} = 180^\circ \rightarrow \hat{A} = 30^\circ$

$\frac{a}{\sin A} = \frac{b}{\sin B} \rightarrow \frac{10}{\frac{1}{2}} = \frac{10\sqrt{2}}{\sin B} \rightarrow \sin B = \frac{10\sqrt{2}}{20} = \frac{\sqrt{2}}{2}$

$\hat{B} = 45^\circ = \frac{\pi}{4}$

$\hat{B} + \hat{C} = 150^\circ \rightarrow \hat{C} = 105^\circ = \frac{7\pi}{12}$

$$\frac{\tan(\pi - \alpha) + r \tan(\pi + \alpha)}{\tan(r\pi - \alpha) - \tan(r\pi + \alpha)} = \frac{-\tan \alpha + r \tan \alpha}{-\tan \alpha - \tan \alpha} = \frac{r \tan \alpha}{-r \tan \alpha} = -1 \quad (9)$$

$$\tan \frac{\pi}{1r} = \alpha = 1\Delta \quad A = \frac{r \tan 1\Delta + \tan 1\Delta}{r \tan 1\Delta - \tan 1\Delta} \rightarrow \frac{r \tan(\frac{\pi}{r} - \frac{\pi}{1r}) + \tan(\frac{\pi}{r} + \frac{\pi}{1r})}{r \tan(\pi - \frac{\pi}{1r}) - \tan(\frac{r\pi}{r} - \frac{\pi}{1r})} \quad (1, \Delta)$$

$$\rightarrow \frac{r \cot \alpha - \cot \alpha}{-r \tan \alpha - \cot \alpha} = \frac{\cot \alpha}{-r \tan \alpha - \cot \alpha}$$

$$\frac{\sin x + \cos x}{\sin x - \cos x} + \frac{\sin x - \cos x}{\sin x + \cos x} = r \quad \xrightarrow{\text{مخرج}} \frac{\frac{1 + r \sin x \cos x}{(\sin x + \cos x)^2} + \frac{1 - r \sin x \cos x}{(\sin x - \cos x)^2}}{\sin^2 x - \cos^2 x} = r$$

$$\xrightarrow{\text{مخرج}} \cos^2 x = \cos^2 x - \sin^2 x \rightarrow -\cos^2 x = \sin^2 x - \cos^2 x$$

$$\frac{r}{-\cos^2 x} = r \rightarrow r = -r \cos^2 x \rightarrow \cos^2 x = -\frac{r}{r}$$

$$\tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{1 - \cos^2 x}{\frac{1 + \cos^2 x}{r}} \rightarrow \tan^2 x = \frac{1 - (-\frac{r}{r})}{1 + (-\frac{r}{r})} = \frac{\frac{2}{r}}{\frac{1}{r}} = 2$$

$$\frac{\sin^2 x - r \cos^2 x + 1}{\sin^2 x + r \cos^2 x - 1} = \varepsilon \quad \xrightarrow{\text{مخرج}} \frac{(1 - \cos^2 x) - r \cos^2 x + 1}{(1 - \cos^2 x) + r \cos^2 x - 1} = \frac{r - r \cos^2 x}{\cos^2 x} = \varepsilon \quad (9)$$

$$\rightarrow r - r \cos^2 x = \varepsilon \cos^2 x \rightarrow r = \varepsilon \cos^2 x \rightarrow \cos^2 x = \frac{r}{\varepsilon}$$

$$\tan^2 x = \frac{\sin^2 x}{\cos^2 x} = \frac{1 - \frac{r}{\varepsilon}}{\frac{r}{\varepsilon}} = \frac{\frac{\varepsilon - r}{\varepsilon}}{\frac{r}{\varepsilon}} = \frac{\varepsilon - r}{r}$$

$$\text{الف) } \cos(2r, \Delta)$$

$$2r, \Delta = \frac{\varepsilon \Delta}{r}$$

$$\cos \varepsilon \Delta = \frac{\sqrt{r}}{r}$$

$$\cos(2r, \Delta) = \sqrt{\frac{1 + \frac{\sqrt{r}}{r}}{r}} = \frac{\sqrt{r + \sqrt{r}}}{r} \quad (1)$$

$$\text{ب) } \sin(4r, \Delta)$$

$$4r, \Delta = \frac{1r \Delta}{r}$$

$$\cos 1r \Delta = -\frac{\sqrt{r}}{r}$$

$$\sin(4r, \Delta) = \sqrt{\frac{1 - (-\frac{\sqrt{r}}{r})}{r}} = \frac{\sqrt{r + \sqrt{r}}}{r}$$

$$\frac{\pi}{\kappa} = \left(\frac{\pi}{\gamma}\right) \times \frac{1}{\gamma} = \frac{\kappa^0}{\gamma} = 12^\circ$$

7

$$A = \frac{\kappa \tan\left(\frac{\pi}{\gamma} - 12^\circ\right) + \tan\left(\frac{\pi}{\gamma} + 12^\circ\right)}{\kappa \tan(\pi - 12^\circ) - \tan\left(\frac{\kappa\pi}{\gamma} - 12^\circ\right)} = \frac{\kappa \cot 12^\circ - \cot 12^\circ}{-\kappa \tan 12^\circ - \cot 12^\circ}$$

$$A = \frac{\cot 12^\circ}{-\kappa \tan 12^\circ - \cot 12^\circ} \xrightarrow{\tan 12^\circ = a} \frac{\frac{1}{a}}{-\kappa a - \frac{1}{a}} = \frac{-1}{\kappa a^2 + 1}$$