

$$y = \tan(-2x + \frac{\pi}{4}) \quad T = \frac{\pi}{-2} = -\frac{\pi}{2}$$

$$\alpha = 0 \rightarrow \tan \frac{\pi}{4} = 1$$

$$S = \frac{\frac{\pi}{2} \times 1}{2} = \left[\frac{\pi}{4} \right] \text{ جواب}$$

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$$\alpha = \frac{\pi}{2} \Rightarrow \frac{\pi}{4} - \frac{\pi}{2} \sin \alpha - \frac{1}{\pi} (1 - \sin^2 \alpha) = 0$$

$$\hookrightarrow \frac{1}{\pi} \sin^2 \alpha - \frac{\pi}{4} \sin \alpha + \frac{\pi}{4} - \frac{1}{\pi} \Rightarrow 4 \sin^2 \alpha - \pi^2 \sin \alpha + \pi^2 = 0$$

$$\sin \alpha = \frac{1}{\pi}$$

$$\cos \alpha = \frac{\sqrt{\pi^2 - 1}}{\pi} \rightarrow \frac{1}{\cos \alpha} \Rightarrow \left[\frac{4}{\pi} \right] \text{ جواب}$$

$$(\sin \alpha - \frac{\pi}{4}) (\sin \alpha - \frac{\pi}{4})$$

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$$\log \frac{-\sin \alpha}{\cos \alpha} = \log r \Rightarrow \frac{-\sin \alpha}{\cos \alpha} = -\tan \alpha = r$$

$$\cos \alpha \ominus$$

$$\sin \alpha \oplus$$

$$\tan \alpha = -r / (\sin \alpha - \cos \alpha) \Rightarrow \frac{r}{\sqrt{1-r^2}} + \frac{1}{\sqrt{1-r^2}} = \frac{r}{\sqrt{1-r^2}} = \frac{r\sqrt{1-r^2}}{1-r^2} = \left[\frac{2\sqrt{1-r^2}}{1-r^2} \right]$$

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

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$$\begin{cases} \cos^2 \alpha + \sin^2 \alpha = A \\ \sin^2 \alpha + \cos^2 \alpha = \frac{A}{\omega} \end{cases}$$

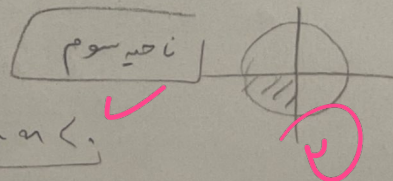
$$\cos^2 \alpha - \sin^2 \alpha + \sin^2 \alpha - \cos^2 \alpha = A - \frac{A}{\omega}$$

$$(\cos^2 \alpha - \sin^2 \alpha) + \sin^2 \alpha - \cos^2 \alpha = 0 \rightarrow A = \left[\frac{A}{\omega} \right] \text{ جواب}$$

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$$\frac{\sin^2 \alpha}{\cos \alpha} - \frac{1}{\cos \alpha} > 0 \rightarrow -\frac{\cos^2 \alpha}{\cos \alpha} > 0 \rightarrow -\cos \alpha > 0 \rightarrow \cos \alpha < 0$$

$$\frac{\sin \alpha (r + \cos \alpha)}{r \sin^2 \alpha} < 0 \rightarrow \frac{r + \cos \alpha}{r \sin \alpha} < 0 \rightarrow \sin \alpha < 0$$



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$$\tan u + \cot u = -\frac{r}{r} - \frac{r}{r} \Rightarrow -\left(\frac{r+r}{r}\right) = \boxed{-\frac{13}{4}}$$

$$\frac{r \cos u + r \sin u}{\sin u \cos u} = 0 \Rightarrow r \cos u + r \sin u = 0 \xrightarrow{\div \cos u} r + r \tan u = 0 \rightarrow \tan u = -\frac{r}{r}$$

$$\frac{\sqrt{1 + \sin 2\alpha}}{\sin 2\alpha + \sin 1} = \frac{\cos 40^\circ \sin 40^\circ + \cos 1^\circ \sin 1^\circ}{r \sin 1^\circ \times \cos 1^\circ} = \frac{r \cos 40^\circ \times \cos 1^\circ}{\cos 1^\circ}$$

$$\sin 41^\circ + \sin 1^\circ = r \sin\left(\frac{41+1}{2}\right) \cdot \cos\left(\frac{41-1}{2}\right)$$

$$\left(\frac{1 - \tan^2 \alpha}{\cos 10}\right) \left(\frac{r \cos 1^\circ - 1}{\cos 1^\circ}\right) \left(\frac{1 - \tan^2 \epsilon}{1 + \tan^2 \epsilon}\right) = \cos 10^\circ \cdot \sin 1^\circ \cdot \cos \epsilon$$

$$\frac{\sin 1^\circ}{\sin 10^\circ} \times (\cos 10^\circ \cdot \cos 1^\circ \cdot \cos \epsilon) \Rightarrow \frac{1}{r} \sin 1^\circ \rightarrow \frac{1}{r} \sin \epsilon \cdot \cos \epsilon \Rightarrow \frac{1}{r} \frac{\sin 2\epsilon}{2} \Rightarrow \boxed{\frac{1}{r} \cot 1^\circ}$$

$$\sin \alpha + r \cos \alpha = r \Rightarrow \sin \alpha = r - r \cos \alpha \Rightarrow \cos^2 \alpha + r - 12 \cos \alpha + 9 \cos^2 \alpha = 1$$

$$10 \cos^2 \alpha - 12 \cos \alpha + r = 0$$

$$10 \cos^2 \alpha - 12 \cos \alpha - 1 = 0 \Rightarrow \boxed{-\frac{1}{10}}$$

$$\sin \hat{B} \sin \hat{C} = \frac{1 + \cos \hat{A}}{r} \Rightarrow \frac{1 + \cos A}{r} = \frac{\cos(B-C) + \cos A}{r}$$

$$\sin \hat{B} \sin \hat{C} = \frac{1 + \cos \hat{A}}{r}$$

$$\sin \hat{B} \sin \hat{C} = \frac{\cos(B-C) - \cos(B+C)}{r}$$

$$10 - 2(12) = \boxed{4}$$

$$\hat{A} = 44^\circ$$

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$$\sin \alpha + 3c.s\alpha = 2 \rightarrow \sin \alpha = 2 - 3c.s\alpha \xrightarrow{\text{توان}} \sin^2 \alpha = (2 - 3c.s\alpha)^2$$

$$1 - c.s^2 \alpha = 9c.s^2 \alpha + 4 - 12c.s\alpha \rightarrow 1.c.s^2 \alpha - 12c.s\alpha + 3 = 0 \xrightarrow{\text{نمره داری}}$$

$$1 \cdot \left(\frac{1 + c.s^2 \alpha}{2} \right) - 12c.s\alpha + 3 = 0 \rightarrow 1 + 1c.s^2 \alpha - 12c.s\alpha + 3 = 0$$

(ضریب سوال)

$$1c.s^2 \alpha - 12c.s\alpha = \boxed{-4}$$