

$$T = \frac{\pi}{1-2} = \frac{\pi}{-1}$$

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

$$S = \frac{\frac{\pi}{4} \times 1}{-1} = -\frac{\pi}{4}$$

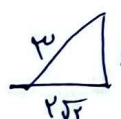
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$$\frac{\pi}{4} - \frac{\pi}{4} \sin \alpha - \frac{1}{\pi} \frac{\cos^2 \alpha}{(1-\sin^2 \alpha)} = 0 \Rightarrow \frac{1}{\pi} \sin^2 - \frac{\pi}{4} \sin + \frac{\pi}{4} = 0$$

$$9 \sin^2 - 4 \pi \sin + \pi = 0$$

$$\sin \alpha = \frac{\pi}{4}$$



$$\cos \alpha = \frac{\sqrt{2}}{\sqrt{3}}$$

$$1 + \tan^2 = \frac{1}{\cos^2} = \frac{1}{\left(\frac{\sqrt{2}}{\sqrt{3}}\right)^2} = \frac{3}{2}$$

1, 1/2

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$$\log \frac{\sin \alpha}{-\cos \alpha} = \log^2 \frac{\sin \alpha}{-\cos \alpha} = 2 \quad \sin = 2 \cos \quad \tan \alpha = -2$$

$$(\sin \alpha + \cos \alpha)^2 = 1 - 2 \sin \cos = 1 - 2 \times \frac{1}{\sqrt{5}} \times \frac{2}{\sqrt{5}} = 1 - \frac{4}{5} = \frac{1}{5}$$

$$\sin \alpha = \frac{2}{\sqrt{5}} = \frac{2\sqrt{5}}{5}$$

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$$\sin^4 + \cos^4 = \frac{5}{9} \Rightarrow \sin^4 - \sin^2 + 1 = \frac{5}{9} \xrightarrow{\sin^2 = t} t^2 - t + 1 = \frac{5}{9}$$

$$\sin^2 + \frac{\cos^4}{(1-\sin^2)^2} = \sin^2 - \frac{4 \sin^2 + \sin^4 + 1}{- \sin^2} = \frac{5}{9}$$

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$$1) \frac{\sin^2 \alpha - 1}{\cos \alpha} > 0 \Rightarrow -\cos \alpha > 0 \Rightarrow \cos \alpha < 0 \Rightarrow \text{ربع دوم}$$

$$2) \frac{\sin \alpha (3 + \cos \alpha)}{2(1 - \cos^2 \alpha)} = \frac{3 + \cos \alpha}{2 \sin \alpha} < 0 \Rightarrow \sin \alpha < 0$$

ربع سوم

✓

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صورت و مخرج مثبت پس خارج منفی

$$\frac{P \cos x + Y \sin x}{\sin x \cos x} = 0 \quad P \cos x + Y \sin x = 0 \quad \tan x = -\frac{Y}{P}$$

$$\tan x + \cot x = \frac{Y}{\sin x} = \frac{Y}{\frac{P \tan x}{1 + \tan^2 x}} = \frac{Y}{\frac{-\frac{P}{Y}}{\frac{9}{9} + \frac{Y}{9}}} = -\frac{1Y}{Y}$$

(P) ✓

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$$\sqrt{1 + \sin \theta} = \sqrt{1 + \csc \theta} = \sqrt{1 + \frac{1}{\sin \theta}} = \sqrt{\frac{\sin \theta + 1}{\sin \theta}} = \sqrt{\frac{1 + \sin \theta}{\sin \theta}}$$

$$\sin \theta + \sin 1 = \sin(\theta + 1) + \sin(\theta - 1)$$

$$\frac{\sqrt{1 + \sin \theta}}{\sin \theta \csc \theta} = \sqrt{1}$$

✓

Y

$$(1 - Y \sin^2 \omega) (Y \cos^2 - 1) \left(\frac{1 - \tan^2 Y}{1 + \tan^2 Y} \right) = (\cos 10) (\cos Y_0) (\cos \theta_0) \times \frac{\sin 10}{\sin 10}$$

$$\frac{1}{\Lambda} \frac{\sin \cos \Lambda_0}{\sin 10} = \frac{1}{\Lambda} \frac{C \cdot S 1}{\sin 10} = \frac{1}{\Lambda} C + 1$$

✓ (1/b)

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$$\sin \alpha + Y \cos \alpha = Y$$

$$\sin = Y - Y \cos \alpha$$

$$(Y - Y \cos)^2 + \cos^2 = 1 \Rightarrow 1 \cos^2 - 1Y \cos + Y = 1 \Rightarrow 1 \cos^2 - 1Y \cos = -Y$$

$$\omega \cos^2 \alpha - 1Y \cos \alpha = \omega (Y \cos^2 - 1) - 1Y \cos = 1 \cos^2 - 1Y \cos - \omega = -1$$

(P) ✓

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$$\frac{\sin B}{\sin V} \times \sin C = \cos^2 \frac{A}{Y}$$

$$\sin V Y = \cos \frac{A}{Y} \Rightarrow V Y + \frac{A}{Y} = 9 \Rightarrow A = Y Y$$

$$\sin C = \cos \frac{A}{Y} \Rightarrow C = V Y$$

(P) ✓

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