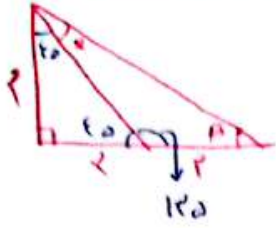


$$\sqrt{x} \sin \alpha = \frac{1}{x} \times \sqrt{x} \times \sin \alpha \Rightarrow \sin \alpha = \frac{\sqrt{x}}{x} \begin{cases} \alpha = \frac{\pi}{6} \\ \alpha = \frac{\pi}{4} \end{cases} \rightarrow \frac{\sqrt{x}}{x} = \frac{1}{x} \rightarrow x = 1$$



$$\cot \beta = x, \tan \beta = \tan(\frac{\pi}{2} - \alpha) = \frac{1}{x} = \frac{\tan \frac{\pi}{2} - \tan \alpha}{1 + \tan \frac{\pi}{2} \tan \alpha}$$

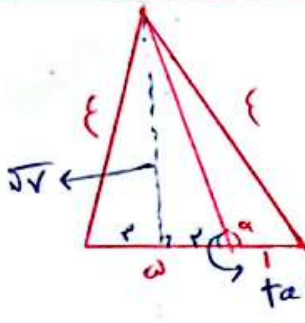
$$\Rightarrow \beta = \pi - \alpha - \frac{\pi}{2} = \frac{\pi}{2} - \alpha$$

$$\frac{1}{x} = \frac{\tan \alpha + 1}{1 + \tan \alpha} \Rightarrow \tan \alpha + 1 = x \tan \alpha - x \Rightarrow \tan \alpha = \frac{1}{x} \Rightarrow \cot \alpha = x$$

$$\cot \alpha = \frac{x}{1} \\ \cot \alpha = \frac{x}{1}$$

$$\Rightarrow \tan \alpha = \frac{1}{x} \Rightarrow \frac{1}{x} = \frac{1}{1 - \frac{x}{x}} \Rightarrow 4x^2 = 1 - 2x^2 \Rightarrow x^2 = \frac{1}{6} \Rightarrow x = \pm \frac{1}{\sqrt{6}}$$

$\cot \alpha = x \leftarrow x = \frac{1}{\sqrt{6}}$



$$\frac{\sqrt{x}}{x} = \tan \alpha \Rightarrow \tan \alpha = \frac{\sqrt{x}}{x}$$

$$\tan(\pi - \alpha) = \frac{\sqrt{x}}{x}$$

$$\sin^2 \alpha = \frac{1}{4} \Rightarrow \cos^2 \alpha = \frac{3}{4} \Rightarrow \tan^2 \alpha = \frac{1}{3}$$

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

$$\sin(\frac{\pi}{2} + \alpha) \cos(\frac{\pi}{2} - \alpha) + \tan(\frac{\pi}{2} - \alpha) = \cos \alpha \times \sin \alpha + \cot \alpha$$

$$\frac{1}{2} \times \frac{1}{2} + \frac{1}{1} = \frac{1}{2} \times \frac{1}{2} + \frac{1}{1} = \frac{1}{4} + \frac{1}{1} = \frac{1 + 4}{4} = \frac{5}{4}$$

$$\frac{1}{x} + \sqrt{x} (\sin \frac{\pi}{4} - \cos \frac{\pi}{4}) \Rightarrow \frac{1}{x} + \sqrt{x} \times \frac{\sqrt{2}}{2} (\frac{\sqrt{2}}{2} - \frac{\sqrt{2}}{2}) = \frac{1}{x} - \sqrt{x} \times \frac{1}{2} = \frac{1}{x}$$

$$\tan \alpha = \frac{x + 1}{1 - \frac{1}{x}} = \frac{x(x+1)}{x-1} = \frac{x^2 + x}{x-1} \Rightarrow \frac{x^2 + x}{x-1} = \frac{1}{x} \Rightarrow x^3 + x^2 - 1 = 0$$

$$\frac{1}{10} \sin \alpha = \frac{1}{10} \cos \alpha = \frac{10}{10} \rightarrow \frac{1}{10} - \frac{1}{10} = \frac{10}{10} - 1 = \frac{10 - 10}{10} = 0$$

$$\cos > 0 \rightarrow \textcircled{1} \textcircled{2}$$

$$x \sin < x \sin \times \cos \xrightarrow{\alpha < \cos} \sin > 0 \rightarrow \underline{\underline{1}}$$