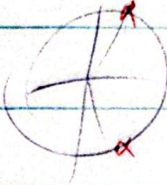


سوال ۱۱۵

$$\sec \theta = 1 + \tan^2 \theta \rightarrow \sec \theta = \frac{1}{\cos^2 \theta}$$

سوال ۱۱۵

$$\sec \theta = 1 \rightarrow \cos \theta = \frac{1}{1}$$



سوال ۱۱۵

$$r \sin \alpha + \cos \alpha + \sin \alpha = 1$$

سوال ۱۱۵

$$\sin \alpha (r \cos \alpha + 1) = 1 \quad \sin \alpha = \frac{1 - \cos \alpha}{r} \rightarrow \sin \alpha (r(1 - \cos \alpha) + 1) =$$

$$\sin \alpha (r - r \cos \alpha + 1) \rightarrow \sin \alpha (r - r \cos \alpha) \rightarrow$$

$$r \sin \alpha - r \cos \alpha = \sin \alpha = 1$$

$$r \alpha = r \left(\frac{\pi}{2} + \frac{\pi}{4} \right) \rightarrow \alpha = \frac{r \pi}{4} + \frac{\pi}{4} \rightarrow \frac{r \pi}{4} + \frac{\pi}{4} \rightarrow \frac{\pi}{4} \rightarrow \frac{\pi}{4}$$

$$\frac{1}{\sin(\frac{\pi}{2} + \pi)} + \frac{1}{\cos(\frac{\pi}{2} + \pi)} \rightarrow \frac{1}{\cos \pi} + \frac{1}{-\sin \pi}$$

سوال ۱۱۵

$$\sin \pi + \cos \pi = -1 \rightarrow \cos \pi - \sin \pi \rightarrow \sin \pi = \sin(\frac{\pi}{2} - \pi)$$

$$\pi = r \left(\frac{\pi}{2} + \frac{\pi}{4} \right) - \pi \rightarrow \pi = r \left(\frac{\pi}{4} + \frac{\pi}{4} \right) \rightarrow \frac{\pi}{2}$$

$$\pi = r \left(\frac{\pi}{2} + \frac{\pi}{4} \right) + \pi \rightarrow \pi = r \left(\frac{\pi}{4} + \frac{\pi}{4} \right) \rightarrow \frac{\pi}{2}$$

$$\frac{\pi}{2} - \frac{\pi}{2} = \frac{\pi}{4} \quad \tan \alpha \rightarrow \tan \frac{\pi}{4} \rightarrow \sqrt{1}$$

$$\Delta \sin^2 + 1 \cos(\pi) = -1 \rightarrow$$

Condition

Q12

$$\sin^2 = 0 \Rightarrow \sin \pi = 0$$

$$\sin^2 = 0, \cos \pi = -1$$

$$u_0 = \cos, \cos \pi = -1, \sin \pi = 0 \rightarrow \pi = \pi + 2\pi$$

$$u_0 = \frac{\pi}{2} + \frac{\pi}{2}$$

$$u_0 = -\pi, \pi$$

$$u_0 = \frac{\pi}{2}, \pi, -\frac{\pi}{2}, -\pi$$

$$\left. \begin{array}{l} \\ \end{array} \right\} \rightarrow \pi = \pi, -\pi \rightarrow$$

Q12

سوال 12

$$\cos \left(\frac{\pi}{2} \right) - \sin \left(\frac{\pi}{2} \right) = \frac{1}{\sqrt{2}}$$

$$\frac{\sqrt{2}}{2} (\cos - \sin) = \frac{1}{\sqrt{2}} \rightarrow \cos - \sin = \frac{1}{\sqrt{2}}$$

$$m \left(\frac{\sqrt{2}}{2} \right) - \sqrt{2} \sin m = \sqrt{2} \rightarrow m = 1 \sin m = 1$$

$$m = 1 + 9 \sin m \xrightarrow{\frac{\pi}{2}} m = 1 + 2 \rightarrow m = 3$$

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

$$\sin \left(m + \frac{\pi}{4} \right) \cos \left(\frac{\pi}{4} - m \right) = 1$$

سوال 13

$$1 \sin \left(m + \frac{\pi}{4} \right) = 1 \rightarrow \sin \left(m + \frac{\pi}{4} \right) = \frac{1}{1} \rightarrow m + \frac{\pi}{4} = \frac{\pi}{2} + 2k\pi$$

$$m = 0, \pi$$

$$m + \frac{\pi}{4} = \frac{\pi}{2} + 2k\pi \rightarrow m = \frac{\pi}{4} + 2k\pi \rightarrow m = \frac{\pi}{4}$$

$$1 \sin \left(m + \frac{\pi}{4} \right) = \sqrt{2}$$

سوال 14

$$\sin \left(m + \frac{\pi}{4} \right) = \frac{\sqrt{2}}{2} \rightarrow m + \frac{\pi}{4} = \frac{\pi}{4} + 2k\pi \rightarrow m = 2k\pi$$

$$m + \frac{\pi}{4} = \frac{3\pi}{4} + 2k\pi \rightarrow m = \frac{\pi}{2} + 2k\pi$$

$$\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$$

$$\sin(\pi - \theta) = 1 \rightarrow \sin \theta = 1$$

Q. 13

$$\sin \theta = \frac{1}{r} \rightarrow r = \frac{1}{\sin \theta} \rightarrow r = \frac{1}{\sin \theta} + \frac{1}{\sin \theta}$$

$$r = \frac{1}{\sin \theta} + \frac{1}{\sin \theta} \rightarrow r = \frac{1 + 1}{\sin \theta} = \frac{2}{\sin \theta}$$

$$\frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2}$$

$$(1 + \cos \theta)(1 + \cos \theta)(1 + \cos \theta) = \frac{1}{r}$$

Q. 13

$$\frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2}$$

$$\sin \theta = \sin \theta \rightarrow \theta = \pi - \theta \rightarrow \theta = \frac{\pi}{2}$$

$$\theta = \pi - \theta \rightarrow \theta = \frac{\pi}{2}$$

$$\sin \theta = \sin \theta \rightarrow \theta = \pi - \theta \rightarrow \theta = \frac{\pi}{2}$$

$$\theta = \pi - \theta \rightarrow \theta = \frac{\pi}{2}$$

$$\tan \theta = \frac{1}{\tan \theta} \rightarrow \tan \theta = \frac{1}{\tan \theta}$$

Q. 13

$$\tan \theta = \tan(\pi - \theta) \rightarrow \theta = \pi - \theta$$

$$\theta = \pi - \theta \rightarrow \theta = \frac{\pi}{2}$$

$$\frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2}$$

$$\frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2} \rightarrow \frac{1}{r} = \frac{1}{2}$$

