

$$30 \times \frac{\pi}{180}$$

$$60 \times \frac{\pi}{180}$$

$$\begin{aligned} \sin &= 0 & \frac{1}{2} & \frac{\sqrt{2}}{2} & \frac{\sqrt{3}}{2} & 1 \\ \cos &= 1 & \frac{\sqrt{2}}{2} & \frac{1}{\sqrt{2}} & \frac{1}{2} & 0 \\ \tan &= 0 & \frac{1}{\sqrt{3}} & 1 & \sqrt{3} & \infty \end{aligned}$$

$$(4) \textcircled{2} \quad \tan^{-1}(-\sqrt{3}) = y$$

$$\Rightarrow (-\sqrt{3}) = \tan y$$

$$\Rightarrow -\tan \frac{\pi}{3} = \tan y$$

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$$\Rightarrow \tan -\frac{\pi}{3} = \tan y$$

$$\boxed{y = -\frac{\pi}{3}} \text{ Ans}$$

$$(3) \textcircled{2} \quad \operatorname{cosec}^{-1}(2) = y$$

$$\Rightarrow 2 = \operatorname{cosec} y$$

$$\Rightarrow \operatorname{cosec} \frac{\pi}{6} = \operatorname{cosec} y$$

$$\boxed{y = \frac{\pi}{6}} \text{ Ans}$$

$$(5) \quad \cos^{-1}\left(-\frac{1}{2}\right) = y$$

$$\Rightarrow -\frac{1}{2} = \cos y$$

$$\Rightarrow -\left(\frac{1}{2}\right) = \cos y$$

$$\Rightarrow \cos\left(\pi - \frac{\pi}{3}\right) = \cos y$$

$$\Rightarrow \cos\left(\frac{3\pi - \pi}{3}\right) = \cos y$$

$$\cos \frac{2\pi}{3} = \cos y$$

$$\boxed{y = \frac{2\pi}{3}} \text{ Ans}$$

$845 \times \frac{\pi}{180}$   
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$$(6) \tan^{-1}(-1) = y$$

$$\Rightarrow (-1) = \tan y$$

$$\Rightarrow \tan y = \tan\left(-\frac{\pi}{4}\right) \Rightarrow \cos\left(\pi - \frac{\pi}{4}\right) = \cos y$$

$$y = -\frac{\pi}{4} \quad \text{Ans}$$

$$(7) \sec^{-1}\left(\frac{2}{\sqrt{3}}\right) = y$$

$$\Rightarrow \left(\frac{2}{\sqrt{3}}\right) = \sec y$$

$$\Rightarrow \sec\left(\frac{\pi}{6}\right) = \sec y$$

$$y = \frac{\pi}{6} \quad \text{Ans}$$

$$(8) \cot^{-1}(\sqrt{3}) = y$$

$$\Rightarrow (\sqrt{3}) = \cot y$$

$$\Rightarrow \cot\left(\frac{\pi}{6}\right) = \cot y$$

$$y = \frac{\pi}{6} \quad \text{Ans}$$

$$(9) \cos^{-1}\left(-\frac{1}{\sqrt{2}}\right) = y$$

$$\Rightarrow -\frac{1}{\sqrt{2}} = \cos y$$

$$\Rightarrow \cos\left(\pi - \frac{\pi}{4}\right) = \cos y$$

$$\Rightarrow \cos\left(\frac{4\pi - \pi}{4}\right) = \cos y$$

$$\Rightarrow \cos\left(\frac{3\pi}{4}\right) = \cos y$$

$$y = \frac{3\pi}{4} \quad \text{Ans}$$

$$(10) \operatorname{cosec}^{-1}(-\sqrt{2}) = y$$

$$\Rightarrow (-\sqrt{2}) = \operatorname{cosec} y$$

$$\Rightarrow -\operatorname{cosec}\frac{\pi}{4} = \operatorname{cosec} y$$

$$\Rightarrow \operatorname{cosec} -\frac{\pi}{4} = \operatorname{cosec} y$$

$$y = -\frac{\pi}{4} \quad \text{Ans}$$