

$$8. \quad \cos 225^\circ = -\cos 45^\circ = -\frac{1}{\sqrt{2}} = -\frac{\sqrt{2}}{2}$$

$$10. \quad \tan 330^\circ = -\tan 30^\circ = -\frac{1}{\sqrt{3}} = -\frac{\sqrt{3}}{3}$$

$$12. \quad \sec(-60^\circ) = \sec 60^\circ = \frac{1}{\cos 60^\circ} = 2$$

$$14. \quad \cot 210^\circ = \cot 30^\circ = \frac{1}{\tan 30^\circ} = \sqrt{3}$$

$$16. \quad \sec 120^\circ = -\sec 60^\circ = -\frac{1}{\cos 60^\circ} = -2$$

$$18. \quad \cos 660^\circ = \cos 60^\circ = \frac{1}{2}$$

$$20. \quad \sin\left(\frac{5\pi}{3}\right) = -\sin\left(\frac{\pi}{3}\right) = -\frac{\sqrt{3}}{2}$$

$$22. \quad \cos\left(\frac{7\pi}{3}\right) = \cos\left(\frac{\pi}{3}\right) = \frac{1}{2}$$

$$24. \quad \tan\left(\frac{5\pi}{6}\right) = -\tan\left(\frac{\pi}{6}\right) = -\frac{1}{\sqrt{3}} = -\frac{\sqrt{3}}{3}$$

$$26. \quad \csc\left(\frac{5\pi}{4}\right) = -\csc\left(\frac{\pi}{4}\right) = -\frac{1}{\sin\left(\frac{\pi}{4}\right)} = -\sqrt{2}$$

$$28. \quad \cos\left(\frac{7\pi}{4}\right) = \cos\left(\frac{\pi}{4}\right) = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$$

$$30. \quad \sin\left(\frac{11\pi}{6}\right) = -\sin\left(\frac{\pi}{6}\right) = -\frac{1}{2}$$

32. Since both $\tan \theta$ and $\sin \theta$ are negative, θ is in quadrant IV.

34. Since $\csc \theta > 0 \Rightarrow \sin \theta > 0$ and $\cos \theta < 0$, θ is in quadrant II.

$$42. \quad \cos \theta = -\frac{7}{12}. \text{ Since } \theta \text{ is in quadrant III, } y = -\sqrt{12^2 - 7^2} = -\sqrt{95}, \text{ and so } \sin \theta = -\frac{\sqrt{95}}{12}, \\ \tan \theta = \frac{\sqrt{95}}{7}, \csc \theta = -\frac{12}{\sqrt{95}}, \sec \theta = -\frac{12}{7}, \cot \theta = \frac{7}{\sqrt{95}}.$$