

$$9. \tan^2 \theta - \sec \theta - 1 = 0 \quad \left[-\frac{3\pi}{2}, \frac{\pi}{2}\right]$$

$$\sec^2 \theta - 1 - \sec \theta - 1 = 0$$

$$\sec^2 \theta - \sec \theta - 2 = 0$$

$$(\sec \theta - 2)(\sec \theta + 1) = 0$$

$$\sec \theta = 2 \quad \sec \theta = -1$$

$$\frac{1}{\cos \theta} = 2 \quad \frac{1}{\cos \theta} = -1$$

$$\cos \theta = \frac{1}{2} \quad \cos \theta = -1$$

$$\left[-\frac{\pi}{3}, \frac{\pi}{3}\right]$$

$$[-\pi]$$

$$10. (1 - \cos \theta)^2 = (-\sin \theta)^2 \quad [-4\pi, 0]$$

$$(1 - \cos \theta)(1 - \cos \theta) = \sin^2 \theta$$

$$\begin{array}{r} \sqrt{-2\cos\theta + \cos^2\theta} \\ -1 \qquad \qquad \qquad +\cos^2\theta \end{array} = \begin{array}{r} \sqrt{-\cos^2\theta} \\ -1 \end{array}$$

$$2\cos^2 \theta - 2\cos \theta = 0$$

$$2\cos \theta (\cos \theta - 1) = 0$$

$$2\cos \theta = 0 \quad \cos \theta - 1 = 0$$

$$\cos \theta = 0 \quad \cos \theta = 1$$

$$\left[-\frac{\pi}{2}, -\frac{3\pi}{2}, -\frac{5\pi}{2}, -\frac{7\pi}{2}\right]$$

$$[0, -2\pi, -4\pi]$$