

Section 6.6: Trigonometric Equations

Ex: Solve the following Equations over the given interval.

$$1) \tan \theta = -\frac{1}{\sqrt{3}} \quad , \quad \left[-\frac{\pi}{2}, 2\pi\right]$$

$$2) \cos 2\theta = -\frac{1}{2} \quad , \quad [-\pi, \pi]$$

$$3) \sec\left(2\theta - \frac{\pi}{3}\right) = -1 \quad , \quad \left[-\frac{\pi}{2}, \pi\right]$$

$$4) \tan 2\theta = -1 \quad , \quad \left[-\pi, \frac{\pi}{2}\right]$$

$$5) \cos\left(2\theta + \frac{\pi}{3}\right) = 0 \quad , \quad \left[-\pi, \frac{\pi}{2}\right]$$

$$6) \csc\left(\theta + \frac{\pi}{6}\right) = \frac{2}{\sqrt{3}} \quad , \quad \left[-\frac{\pi}{2}, \pi\right]$$

$$7) \tan\left(2\theta + \frac{\pi}{3}\right) = 0 \quad , \quad \left[-\pi, \frac{\pi}{2}\right]$$

$$8) \sec\left(2\theta - \frac{\pi}{4}\right) = -\sqrt{2} \quad , \quad \left[-\pi, \frac{\pi}{2}\right]$$

$$9) \cot\left(\frac{\theta}{2} + \frac{\pi}{3}\right) = \sqrt{3} \quad , \quad \left[-\pi, \frac{\pi}{2}\right]$$

$$10) \sin 3\theta = 1 \quad , \quad \left[-\frac{\pi}{2}, \pi\right]$$