Section 6.7 : Trigonometric Equations

Ex: Find the number of solutions over the given interval

1) $2\sin\theta\cos\theta = -\cos\theta \quad , \quad [-\frac{3\pi}{2}, \frac{5\pi}{2})$

2) $-2\cos^2\theta - 1 = 0 \quad , \quad [-\pi, \pi]$

3) $2\sec^2\theta - \sec\theta - 1 = 0 \quad , \quad [-\frac{\pi}{2}, 2\pi)$

4) $2\sin^2\theta = 1 \quad , \quad [-\frac{3\pi}{2}, 3\pi]$

5) $\tan^2\theta - 2\tan = 0 \quad , \quad [-\pi, 2\pi)$

6) $\cot^2\theta = \csc\theta - 1 \quad , \quad [-\pi, \pi)$

7) $3\cos\theta - 1 = 2\sec\theta \quad , \quad (-\frac{3\pi}{2}, \frac{\pi}{2})$

8) $2\sin\theta = \sin 2\theta \quad , \quad [-\frac{3\pi}{2}, \pi)$

9) $\cos^2\theta = \sin\theta + \sin^2\theta \quad , \quad [-\pi, \frac{\pi}{2}]$

10) $\sin\theta - 2\cos\theta = 0 \quad , \quad [-\pi, \frac{\pi}{2}]$

11) $\sin\theta\cos\theta = -\sin\theta \quad , \quad [-\pi, \pi]$

12) $\cos\theta = \cos 2\theta \quad , \quad (-\frac{\pi}{2}, \pi]$

13) $5\tan\theta\sec\theta - 4\tan\theta = 0 \quad , \quad (-\pi, \pi]$

14) $2\cot^2\theta = \cot\theta \quad , \quad [-\pi, \frac{\pi}{2})$

15) $\tan\theta = \cot\theta \quad , \quad [-2\pi, \frac{\pi}{2}]$