Assignment:Trigonometric Equation-1

Solve each equation for $0 \le \theta < 2\pi$.

1) $2\sqrt{3}\tan\theta\sin\theta - 4\tan\theta = -\tan\theta$

2) $2\tan\theta + 2 = 3 + \tan^2\theta$

3) $2 = 2\cos^2\theta + \cos\theta + 1$

4) $-1 = 4\cos^2\theta - 2$

5) $\sin\theta\tan\theta - 3\sin\theta = -\sqrt{3}\sin\theta - 3\sin\theta$

6) $2\tan\theta = 2\sqrt{3}\tan\theta\cos\theta - \tan\theta$

7) $\tan\theta\cos\theta = \tan\theta$

8) $3\sin\theta - 2\tan\theta = -\sqrt{3}\sin\theta\tan\theta - 2\tan\theta$

9) $2 = \sin^2\theta + 1$

10) $-4 - \sin\theta + 2\sin^2\theta = -3$

Assignment:Trigonometric Equation-1

Solve each equation for $0 \leq \theta < 2\pi.$

1) $2\sqrt{3}\tan\theta\sin\theta - 4\tan\theta = -\tan\theta$

$$\left\{0, \frac{\pi}{3}, \frac{2\pi}{3}, \pi\right\}$$

2) $2\tan\theta + 2 = 3 + \tan^2\theta$

$$\left\{\frac{\pi}{4}, \frac{5\pi}{4}\right\}$$

3) $2 = 2\cos^2\theta + \cos\theta + 1$

$$\left\{\frac{\pi}{3}, \pi, \frac{5\pi}{3}\right\}$$

4) $-1 = 4\cos^2\theta - 2$

$$\left\{\frac{\pi}{3}, \frac{2\pi}{3}, \frac{4\pi}{3}, \frac{5\pi}{3}\right\}$$

5) $\sin\theta\tan\theta - 3\sin\theta = -\sqrt{3}\sin\theta - 3\sin\theta$

$$\left\{0, \frac{2\pi}{3}, \pi, \frac{5\pi}{3}\right\}$$

6) $2\tan\theta = 2\sqrt{3}\tan\theta\cos\theta - \tan\theta$

$$\left\{0, \frac{\pi}{6}, \pi, \frac{11\pi}{6}\right\}$$

7) $\tan\theta\cos\theta = \tan\theta$

$$\left\{0, \pi\right\}$$

8) $3\sin\theta - 2\tan\theta = -\sqrt{3}\sin\theta\tan\theta - 2\tan\theta$

$$\left\{0, \frac{2\pi}{3}, \pi, \frac{5\pi}{3}\right\}$$

9) $2 = \sin^2\theta + 1$

$$\left\{\frac{\pi}{2}, \frac{3\pi}{2}\right\}$$

10) $-4 - \sin\theta + 2\sin^2\theta = -3$

$$\left\{\frac{\pi}{2}, \frac{7\pi}{6}, \frac{11\pi}{6}\right\}$$