

Assignment : Trigonometric equation

Date _____

Solve each equation for $-\pi \leq \theta \leq \pi$.

1) $\frac{2\sqrt{3}}{3} = \cos \theta$

2) $\tan \theta = 1$

3) $\frac{\sqrt{3}}{2} = \cos \theta$

4) $\tan \theta = -1$

5) $-2 - \cos \theta = -2 - 2\cos \theta$

6) $\frac{7}{2} - 2\cos \theta = 4 - \cos \theta$

7) $-2\tan \theta = -3\tan \theta$

8) $\tan \theta = 1 + 2\tan \theta$

9) $1 + \tan\left(\theta + \frac{\pi}{2}\right) = -2 - 2\tan\left(\theta + \frac{\pi}{2}\right)$

10) $-4 - 3\tan -4\theta = -4 - \frac{8}{3} \cdot \tan -4\theta$

Answers to Assignment : Trigonometric equation

1) No solution.

$$5) \left\{ -\frac{\pi}{2}, \frac{\pi}{2} \right\}$$

$$9) \left\{ -\frac{3\pi}{4}, \frac{\pi}{4} \right\}$$

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

$$6) \left\{ -\frac{2\pi}{3}, \frac{2\pi}{3} \right\}$$

$$10) \left\{ \pi, -\frac{3\pi}{4}, -\frac{\pi}{2}, -\frac{\pi}{4}, 0, \frac{\pi}{4}, \frac{\pi}{2}, \frac{3\pi}{4}, -\pi \right\}$$

$$3) \left\{ -\frac{\pi}{6}, \frac{\pi}{6} \right\}$$

$$7) \{ -\pi, 0, \pi \}$$

$$4) \left\{ -\frac{\pi}{4}, \frac{3\pi}{4} \right\}$$

$$8) \left\{ -\frac{\pi}{4}, \frac{3\pi}{4} \right\}$$

