

Solving Trig Equations

Solve each equation for $0 \leq \theta < 2\pi$. Round your answers to the nearest hundredth.

1) $0.182 = -\frac{1}{5} \cdot \sin \theta$

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

Solve each equation for $0 \leq \theta \leq \pi$. Round your answers to the nearest hundredth.

3) $3.8 = 5 + 2\cos -2\theta$

4) $1 - \tan\left(\theta + \frac{2\pi}{3}\right) = 8.46$

5) $5 + \sin\left(3\theta + \frac{\pi}{3}\right) = 5.23$

6) $-4 - 2\tan\left(-2\theta + \frac{\pi}{2}\right) = 7.82$

7) $-3 = -1 - 2\sin\left(\frac{\theta}{2} + \frac{\pi}{3}\right)$

8) $-8 = -5 - 3\cos\left(3\theta + \frac{7\pi}{6}\right)$

Solve each equation for $0 \leq \theta < 2\pi$. Round your answers to the nearest hundredth.

9) $-5 + \sin\left(\theta + \frac{\pi}{2}\right) = -\frac{9}{2}$

10) $-3 + \cos \frac{\theta}{3} = -2.12$

11) $-6 = -3 - 3\tan\left(\frac{\theta}{4} + \frac{2\pi}{3}\right)$

12) $1 + 3\sin\left(-3\theta + \frac{3\pi}{2}\right) = 4$

Answers to Solving Trig Equations

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|-----------------------|-----------------|------------------|------------------------|
| 1) {4.29, 5.14} | 2) {2.62, 5.76} | 3) {1.11, 2.03} | 4) {2.75} |
| 5) {0.62, 1.82, 2.72} | 6) {1.49, 3.06} | 7) {1.05} | 8) {0.87, 2.97} |
| 9) {1.05, 5.24} | 10) {1.48} | 11) No solution. | 12) {1.05, 3.14, 5.24} |