

#1-9: Solve each trigonometric equation for x , over the interval $0 \leq x < 2\pi$.

(Hint: use an identity or reciprocal function for #4-10.)

1. $2 \sin^2 x + \sin x = 0$

2. $4 \cos^2 x - 4 \cos x + 1 = 0$

3. $\tan x \sec x - \tan x = 0$

4. $2 \sin x - \csc x = 0$

5. $3 \sec^2 x = 4$

6. $\cot^2 x - 1 = 0$

7. $\sin^2 x + \cos^2 x - \cos x = 0$

8. $\cos^2 x - 3 \sin x - 3 = 0$

$$9. \quad 2\sin^2 x + 5\cos x + 1 = 0$$

$$10. \quad \sin 2x = \frac{-\sqrt{3}}{2}$$

Solve the trigonometric equations for x , over the interval $0^\circ \leq x < 360^\circ$.
Round angle measures to the nearest tenth of a degree.

$$11. \quad \sec^2 x = 3 \tan x - 1$$

$$12. \quad \tan 2x = 1$$

$$13. \quad \text{Graph one period of the function: } y = -2\sin\frac{1}{3}(x + \pi) + 1$$

Answers: 1. $0, \pi, \frac{7\pi}{6}, \frac{11\pi}{6}$ 2. $\frac{\pi}{3}, \frac{5\pi}{3}$ 3. $0, \pi$ 4. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$ 5. $\frac{\pi}{6}, \frac{5\pi}{6}, \frac{7\pi}{6}, \frac{11\pi}{6}$

6. $\frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$ 7. 0 8. $\frac{3\pi}{2}$ 9. $\frac{2\pi}{3}, \frac{4\pi}{3}$ 10. $\frac{2\pi}{3}, \frac{5\pi}{6}, \frac{5\pi}{3}, \frac{11\pi}{6}$

11. $45^\circ, 225^\circ, 63.4^\circ, 243.4^\circ$ 12. $22.5^\circ, 112.5^\circ, 202.5^\circ, 292.5^\circ$
