Solving Trig Equations on the Interval $[0, 2\pi)$ Practice Problems

1. $2\cos(x) - 1 = 0$

2. $2\sin(x) - \sin(x) - 1 = 0$

3. $\sin^2(x) + \sin(x) = 0$

4. $4\cos^2(x) = 1$

5. $\cos^3(x) = \cos(x)$

6. $\sec^2(x) - 1 = 0$

7. $2\cos^2(x) + \cos(x) - 1 = 0$

8. $\sin(2x) + \sin(x) = 0$

9. $\sin(2x)\sin(x) = \cos(x)$

10. $\cos(2x) - \cos(x) = 0$

Solving Trig Equations on the Interval $[0, 2\pi)$ Practice Problems Answers

1. $x = \frac{\pi}{3}, \frac{5\pi}{3}$

2. $x = \frac{\pi}{2}, \frac{7\pi}{6}$

3. $x = \pi, \frac{3\pi}{2}$

4. $x = \frac{\pi}{3}, \frac{2\pi}{3}$

5. $0, \frac{\pi}{2}, \pi, \frac{3\pi}{2}$

6. $0, \pi$

7. $\pi, \frac{\pi}{3}, \frac{5\pi}{3}$

8. $x = 0, \frac{\pi}{3}, \pi, \frac{5\pi}{3}$

9. $\frac{\pi}{2}, \frac{3\pi}{2}, \frac{\pi}{4}, \frac{3\pi}{4}, \frac{5\pi}{4}, \frac{7\pi}{4}$

10. $0, \frac{2\pi}{3}, \frac{4\pi}{3}$