

Trig Equations Practice Problems

Find all real solutions for each of the following equations. If a specific interval is specified, find all solutions in that interval.

1) $2x^2 - x = 0$

2) $x^2 + 3x + 2 = 0$

3) $2x^2 + x - 1 = 0$

4) $2\cos^2 x - \cos x = 0, \quad [0, 2\pi)$

5) $\sec^2 x + 3\sec x + 2 = 0, \quad [0, 2\pi)$

6) $2\sin^2 x + \sin x - 1 = 0, \quad [0, 2\pi)$

7) $4x^3 - 4x^2 - 3x + 3 = 0$

8) $4\cos^3 x - 4\cos^2 x - 3\cos x + 3 = 0$

9) $2\sin x \cos x - \cos x = 0$

10) $2\sin^2 x + \sin x - 1 = 0, \quad (0, 2\pi]$

11) $\csc^3 x + 2\csc^2 x - 2\csc x - 4 = 0, \quad (0, 2\pi]$