

Find the exact roots of each equation for $0 \leq x < 2\pi$:

1) $2 \cos x + 1 = \sec x$

2) $\sin x + \sqrt{3} \cos x = 0$

3) $2 \cos^2 x = 3 \sin x$

Find the exact general radian solutions of each equation:

4) $\cos 2x = 1 - 2 \sin x$

5) $\sqrt{2} \sin 2x - 2 \sin x = 0$

$$6) \quad 3 \sin^2 x - 3 \cos^2 x + 1 = \sin^2 2x$$