

Solve for $0 \leq x < 2\pi$

1. $\sin x = \frac{1}{2}$

2. $\tan x = 1$

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

4. $2\cos x + \sqrt{3} = 0$

5. $2\cos x - \sqrt{3} = 0$

6. $\tan x + 1 = 0$

7. $\sqrt{3} \cot x + 1 = 0$

8. $\csc^2 x = 1$

9. $\sec^2 x - 1 = 0$

10. $4\sec^2 x = 8$

11. $2\cos^2 x = 1$

12. $4\cos^2 x - 3 = 0$

Without a calculator compute the following:

13. $\sin 105^\circ$

Lets $\sin x = -5/13$ and $\cos y = 4/5$ not in quadrant four find each of the following:

14. $\sin 2x$

15. $\tan 2x$

16. $\cos (x+y)$

verify the following identities

17. $\sin^2 x(1 + \cot^2 x) = 1$

18. $\cot^2 x - \cos^2 x = \cot^2 x \cos^2 x$