

Verify. Show all your work on separate paper.

1. $\sin x \sec x = \tan x$	2. $\sec x (\tan x) (\csc x) = \sec^2 x$
3. $\sin^2 x (\cot x) (\csc x) = \cos x$	4. $\cos^2 x (\tan x) (\sec x) = \sin x$
5. $\frac{\cot^2 x + 1}{\csc x} = \csc x$	6. $\sin x \csc x - \cos^2 x = \sin^2 x$
7. $\frac{\sec x}{\csc x} = \tan x$	8. $\cos^2 x (1 + \tan^2 x) = 1$
9. $\sin x (1 + \cot^2 x) = \frac{1}{\sin x}$	10. $\sec^2 x \csc^2 x - \sec^2 x = \csc^2 x$
11. $\frac{\cos x \sec x}{\tan x} = \cot x$	12. $\tan x + \cot x = \sec x \csc x$
13. $(\tan x + \cot x) \sin x \cos x = 1$	14. $(\sec x - \tan x)(1 + \sin x) = \cos x$
15. $\frac{1 + \tan^2 x + \sec^2 x \cot^2 x}{\csc^2 x + \cot^2 x \csc^2 x} = \tan^2 x$	16. $\frac{\tan^2 x + 1}{\sec x} = \sec x$
17. $\sec^2 x - \tan x \cot x = \tan^2 x$	18. $\frac{\sin x}{1 - \cos x} = \frac{1 + \cos x}{\sin x}$
19. $\sec x - \tan x = \frac{1 - \sin x}{\cos x}$	20. $\sin x + \cos x \cot x = \csc x$
21. $\cot x (\cos x \tan x + \sin x) = 2 \cos x$	22. $\frac{\sin x}{\csc x} + \frac{\cos x}{\sec x} = 1$
23. $\tan^2 x + \cos^2 x + \sin^2 x = \sec^2 x$	24. $\frac{1}{\tan x} + \tan x = \sec x \csc x$

Solve in the interval  $0^\circ \leq x \leq 360^\circ$ . Show all your work.

25. $-3 \sec^2 x + 4 = 0$	26. $\cos^3 x = \cos x$
27. $\cos^2 x = \frac{1}{2} \cos x$	28. $-6 + 10 \cos x = -1$
29. $\sec^2 x - 2 = 0$	30. $2 \cos^2 x - 3 \cos x + 1 = 0$

31. $\sqrt{3}\tan x \sec x + 2\tan x = 0$	32. $\cos^2 x - \sin^2 x + 3\cos x - 1 = 0$
33. $2\sin x \cos x = 2\sin x$	34. $\tan^2 x \cos x = \tan^2 x$
35. $3\cos^2 x - 5\cos x = 1 + 3\sin^2 x$	36. $1 + \cos x = 2\sin^2 x$
37. $1 + \cos x - 2\sin^2 x = 0$	38. $2\sin^2 x - 3\sin x + 1 = 0$
39. $\cot^2 x - \csc x = 1$	40. $2\cos^2 x - 2\sin^2 x = 1$
41. $\sec^2 x + 3\sec x + 2 = 0$	42. $3\tan^2 x - 1 = 0$