

Simplifying Trigonometric Identities

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| 1. $\cos x \cdot \csc x$ | 2. $\cos x \cdot \csc x \cdot \tan x$ |
| 3. $\tan x \cdot \cot x$ | 4. $\sec x \cdot \cot x$ |
| 5. $\sin x \cdot \cos x \cdot \sec x \cdot \cot x$ | 6. $\cot x \cdot \sec x$ |
| 7. $\sec x \cdot \cos x$ | 8. $\cos x \cdot \tan x$ |
| 9. $\sin x \cdot \sec x$ | 10. $\csc \cdot \sin x$ |
| 11. $\cos x \cdot \tan x + \sin x \cdot \cot x$ | 12. $\sin x \cdot \sec x \cdot \cot x$ |
| 13. $\sin x(\csc x - \sin x)$ | 14. $\cot x(\cos x \cdot \tan x + \sin x)$ |
| 15. $\sec x \cdot \cot x - \cot x \cdot \cos x$ | 16. $\sin x \cdot \tan x - \csc x \cdot \tan x$ |

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| 17. $\frac{\tan x}{\sin x}$ | 18. $\frac{\cot x}{\csc x}$ |
| 19. $\frac{\sec x}{\csc x}$ | 20. $\frac{\csc x}{\cot x}$ |
| 21. $\frac{\sec x}{\tan x}$ | 22. $\frac{\cot x}{\cos x}$ |
| 23. $\frac{\tan x}{\sin x}$ | 24. $\frac{\csc^2 x}{\sec^2 x}$ |
| 25. $\frac{\tan^2 x}{\sec^2 x}$ | 26. $\sec x \cdot \frac{\sin x}{\tan x}$ |

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| 27. $\sec^2 x - 1$ | 28. $1 + \tan^2 x$ |
| 29. $1 + \cot^2 x$ | 30. $2(\csc^2 x - \cot^2 x)$ |
| 31. $\sin x(1 + \cot^2 x)$ | 32. $\cot^2 x(\sec^2 x - 1)$ |
| 33. $\frac{1}{\sin^2 x} - \frac{\cos^2 x}{\sin^2 x}$ | 34. $\frac{1 - \sin^2 x}{\sin^2 x}$ |
| 35. $\cos x(\sec x - \cos x)$ | 36. $\cot x(\tan x + \cot x)$ |
| 37. $\csc x - \cot x \cdot \cos x$ | 38. $\frac{\csc x \cdot \tan x}{1 + \tan^2 x}$ |
| 39. $\frac{\sin^2 x + \cos^2 x}{\tan^2 x + 1}$ | 40. $(1 + \sin x)(1 - \sin x)$ |
| 41. $\frac{1 + \tan^2 x}{1 + \cot^2 x}$ | 42. $\frac{1}{1 + \tan^2 x} + \frac{1}{1 + \cot^2 x}$ |
| 43. $\frac{\tan x + \cot x}{\sec^2 x}$ | 44. $\frac{\sec^2 x}{\sec^2 x - 1}$ |
| 45. $\frac{\sec x \cdot \tan x}{\tan^2 x + 1}$ | 46. $\csc^2 x \cdot \tan^2 x - 1$ |
| 47. $\tan^2 x \cdot \sin^2 x$ | 48. $\csc^2 x - 1$ |
| 49. $\sec^2 x - \tan^2 x$ | 50. $\frac{\sec^2 x - 1}{\sin^2 x}$ |
| 51. $\sec^2 x(1 - \sin^2 x)$ | 52. $\frac{\tan^2 x + 1}{\tan^2 x}$ |
| 53. $\frac{1}{\tan^2 x + 1}$ | 54. $\frac{1 - \sec^2 x}{\tan^2 x}$ |
| 55. $\frac{\sin^2 x + \cos^2 x}{\tan^2 x + 1}$ | 56. $\frac{\sin x}{1 - \cos^2 x}$ |