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Simplify each expression.

$$44. \frac{\sec x}{\tan x} \quad \text{csc } x$$

$$45. \frac{\cot \theta}{\cos \theta} \quad \text{csc } \theta$$

$$47. (\sin x + \cos x)^2 + (\sin x - \cos x)^2 \quad 2$$

$$48. \sin x \cos x \sec x \cot x \quad \cos x$$

$$49. \cos x \tan x + \sin x \cot x \quad \sin x + \cos x$$

$$50. (1 + \cos \theta)(\csc \theta - \cot \theta) \quad \sin \theta$$

$$51. 1 + \cot^2 \theta - \cos^2 \theta - \cos^2 \theta \cot^2 \theta \quad 1$$

$$52. \frac{\sin x}{1 + \cos x} + \frac{\sin x}{1 - \cos x} \quad 2 \csc x$$

$$53. \cos^4 \alpha + 2 \cos^2 \alpha \sin^2 \alpha + \sin^4 \alpha \quad 1$$