

In Exercises 27–44, use the fundamental identities to simplify the expression. There is more than one correct form of each answer.

27. $\cot \theta \sec \theta$

28. $\cos \beta \tan \beta$

29. $\sin \phi(\csc \phi - \sin \phi)$

30. $\sec^2 x(1 - \sin^2 x)$

31. $\frac{\cot x}{\csc x}$

32. $\frac{\csc \theta}{\sec \theta}$

33. $\frac{1 - \sin^2 x}{\csc^2 x - 1}$

34. $\frac{1}{\tan^2 x + 1}$

35. $\sec \alpha \cdot \frac{\sin \alpha}{\tan \alpha}$

36. $\frac{\tan^2 \theta}{\sec^2 \theta}$

37. $\cos\left(\frac{\pi}{2} - x\right)\sec x$

38. $\cot\left(\frac{\pi}{2} - x\right)\cos x$

39. $\frac{\cos^2 y}{1 - \sin y}$

40. $\cos t(1 + \tan^2 t)$

41. $\sin \beta \tan \beta + \cos \beta$

42. $\csc \phi \tan \phi + \sec \phi$

43. $\cot u \sin u + \tan u \cos u$

44. $\sin \theta \sec \theta + \cos \theta \csc \theta$