

Simplifying Trig Expressions

Simplify each expression to a number or one trig function.

_____ 1. $(\sec \theta)(\cos \theta)$

_____ 2. $(\cot \theta)(\sin \theta)$

_____ 3. $1 + \tan^2 \theta$

_____ 4. $\sin^2 \theta + \cos^2 \theta$

_____ 5. $\frac{\tan \theta}{\sec \theta}$

_____ 6. $(\tan^2 \theta)(\csc^2 \theta)$

_____ 7. $(\sin \theta)(\tan \theta)(\cot \theta)(\csc \theta)$

_____ 8. $\frac{\sin^2 \theta + \cos^2 \theta}{\cos^2 \theta}$

_____ 9. $\sec \theta - \sin \theta \tan \theta$

_____ 10. $\frac{\sec^2 \theta - 1}{\sec^2 \theta}$

_____ 11. $\frac{\csc \theta}{\sin \theta} - \frac{\cot \theta}{\tan \theta}$

_____ 12. $\sec^2 \theta - \tan^2 \theta + \cot^2 \theta$

_____ 13. $\cos \theta \sec \theta - \frac{\cos \theta}{\sec \theta}$

_____ 14. $\frac{\sec^2 \theta}{\sec^2 \theta - 1}$

_____ 15. $\sin^4 \theta - \cos^4 \theta$

_____ 16. $\tan \theta \cot \theta - \cos^2 \theta$

_____ 17. $\frac{\sin \theta + \tan \theta}{1 + \sec \theta}$

_____ 18. $\frac{\tan \theta + \cot \theta}{\csc^2 \theta}$

_____ 19. $(1 + \cos \theta)(\csc \theta - \cot \theta)$

_____ 20. $(4 \cos \theta - 3 \sin \theta)^2 + (3 \cos \theta + 4 \sin \theta)^2$