

Name: _____

Verify each identity.

1. $\sin^2 A \cot^2 A = (1 - \sin A)(1 + \sin A)$

2. $\cos^2 A + \tan^2 A \cos^2 A = 1$

3. $\tan B = \frac{\cos B}{\sin B \cot^2 B}$

4. $\frac{\tan \theta \cos \theta}{\sin \theta} = 1$

5. $\frac{1}{\sec^2 \theta} + \frac{1}{\csc^2 \theta} - 1 = 0$

6. $\sin \theta (1 + \cot^2 \theta) = \csc \theta$

7. $\frac{\sec B}{\cos B} - \frac{\tan B}{\cot B} = 1$

8. $\frac{1}{\csc^2 \theta} + \sec^2 \theta + \frac{1}{\sec^2 \theta} = 2 + \frac{\sec^2 \theta}{\csc^2 \theta}$

9. $\frac{\cos x}{1 + \sin x} + \frac{\cos x}{1 - \sin x} = 2 \sec x$

10. $\frac{1 + \tan^2 x}{\csc^2 x} = \tan^2 x$

11. $\frac{1 - \sin^2 x}{1 - \cos^2 x} = \cot^2 x$

12. $(\tan \theta + \cot \theta)(\sec \theta - \cos \theta) = \sec \theta \tan \theta$

13. $(1 - \cos \theta)(1 + \sec \theta) = \sin \theta \tan \theta$

14. $\sin^3 \theta \cos \theta - \sin^5 \theta \cos \theta = \sin^3 \theta \cos^3 \theta$

15. $\sin^2 x \cos^2 x + \cos^4 x = 1 - \sin^2 x$