

## Assignment 3.4 - Trig Identities

Date \_\_\_\_\_ Period \_\_\_\_\_

Verify each identity.

1)  $\csc^2 x \cos^2 x = \csc^2 x - 1$

2)  $\cos x \csc x = \frac{1}{\tan x}$

3)  $\cos x \csc x = \cot x$

4)  $\frac{\sin x}{\csc^2 x - 1} = \frac{\tan^2 x}{\csc x}$

5)  $\cot^2 x + \csc^2 x = \frac{1 + \cos^2 x}{\sin^2 x}$

6)  $\cos x \sec^2 x = \frac{\sec^2 x - \tan^2 x}{\cos x}$

7)  $\frac{\tan^2 x}{\cos x} = \frac{\sec x}{\cot^2 x}$

8)  $\cos^2 x \cot^2 x \sec x = \frac{\csc^2 x - 1}{\sec x}$

9)  $\sin x \sec x = \tan x$

10)  $\frac{\sin x}{1 + \tan^2 x} = \frac{\cos^2 x}{\csc x}$