Algebra 2

Name_____ ID: 1

# 14.2A Verifying Trig. Identities

Period____

**Verify each identity.**

1) $\dfrac{\sec x - \csc x}{\cot x} = \dfrac{\sin x - \cos x}{\cos^2 x}$

2) $\dfrac{1 - \sec x}{\sec^2 x} = \cos x \cdot (\cos x - 1)$

3) $\dfrac{\cot x}{\csc x} = \dfrac{\sin x}{\tan x}$

4) $-\cot x \sin x = -\cos x$

5) $\sec x + \sin x \cot x = \dfrac{1 + \cos^2 x}{\cos x}$

6) $\csc x \cdot (\csc x - 1) = \dfrac{1 - \sin x}{\sin^2 x}$

7) $1 + \cot^2 x \csc^2 x = \cot^4 x + \csc^2 x$

8) $\csc x + \sin x \sec^2 x = \dfrac{\sec^2 x}{\sin x}$

9) $1 - \csc^2 x \tan^2 x = -\tan^2 x$

10) $\dfrac{\tan x}{\cot^2 x + 1} = \sec x \sin^3 x$

11) $\csc^2 x + \sec^2 x = \dfrac{\csc^2 x}{\cos^2 x}$

12) $\dfrac{1}{\cot x \sin x} = \dfrac{\csc^2 x - \cot^2 x}{\cos x}$

13) $\sin x \cdot \left(\sec^2 x - 1\right) = \dfrac{1}{\cot^2 x \csc x}$

14) $\dfrac{1 + \tan^2 x}{\cot x} = \dfrac{\tan x}{\cos^2 x}$