College Algebra

Name: Key

7.1 Day 2 Practice

Date: _____ Period: _____

* Answers may vary *

Verify each of the following identities.

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

$\cos^2 x + \sin^2 x =$

$1 = 1$

2. $\sec^2 x - \tan^2 x + \cot^2 x = \csc^2 x$

$1 + \cot^2 x =$

$\csc^2 x = \csc^2 x$

3. $\cos^2 x(1 + \tan^2 x) = 1$

$\cos^2 x (\sec^2 x) =$

$\cos^2 x \left(\frac{1}{\cos^2 x}\right)$

$1 = 1$

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

$2(1 - \sin^2 x) - 1 =$

$2 - 2\sin^2 x - 1 =$

$1 - 2\sin^2 x = 1 - 2\sin^2 x$

5. $\csc^2 x \tan^2 x - 1 = \tan^2 x$

$\frac{1}{\sin x} \cdot \frac{\sin^2 x}{\cos^2 x} - 1 =$

$\frac{1}{\cos^2 x} - 1 =$

$\sec^2 x - 1 =$

$\tan^2 x = \tan^2 x$

6. $\frac{\cot x}{\csc x} = \cos x$

$\frac{\frac{\cos x}{\sin x}}{\frac{1}{\sin x}}$

$\frac{\cos x}{\sin x} \cdot \frac{\sin x}{1}$

$\cos x = \cos x$

7. $\cos^2 x - \sin^2 x = 1 - 2\sin^2 x$

$1 - \sin^2 x - \sin^2 x =$

$1 - 2\sin^2 x = 1 - 2\sin^2 x$

8. $\frac{1 + \cot^2 x}{\csc x} = \csc x$

$\frac{\csc^2 x}{\csc x} =$

$\csc x = \csc x$