Precalculus

Name_____ ID: 1

# Identity practice

Date_____ Period____

**Verify each identity.**

1) $\frac{\sin x}{\sec x} = \frac{\cos x}{\csc x}$

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

3) $\frac{\cos^2 x}{\cot^2 x} = \sin^2 x$

4) $\frac{\cos^2 x}{\csc x} = \frac{\sin x}{\sec^2 x}$

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

6) $\sec x \cdot (\sec^2 x - 1) = \frac{\tan^2 x}{\cos x}$

7) $\frac{\sec^2 x}{\tan^2 x} = \frac{1}{\sin^2 x}$

8) $-\cos^2 x \tan^2 x = -\sin^2 x$

9) $\frac{\sec x}{\tan x} = \frac{1}{\sin x}$

10) $\sin x \cot x = \cos x$

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

12) $\sin x \cdot \left(1 + \tan^2 x\right) = \sec x \tan x$

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

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

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

16) $\dfrac{\tan^2 x + 1}{\tan^2 x} = \dfrac{\csc x}{\sin x}$

17) $\dfrac{\csc x}{\cos^2 x \tan^2 x} = \dfrac{1 + \cot^2 x}{\sin x}$

18) $\csc^2 x \tan^2 x = \tan^2 x + 1$

19) $\sec^2 x - \tan^2 x + \sec x = \dfrac{\cos x + 1}{\cos x}$

20) $\dfrac{\sin x}{1 + \tan^2 x} = \dfrac{\cos^2 x}{\csc x}$