

Name: _____

5.1 More Trig Identity Practice

Simplify:

1) $\frac{\tan^2 x + 1}{1 + \cot^2 x}$

2) $\frac{1}{\sec x - \tan x} - \frac{1}{\sec x + \tan x}$

3) $\frac{\tan^2 x}{1 - \sec^2 x}$

4) $\frac{\cos^2 x - 1}{\sin^2 x - 1}$

5) $\frac{\tan x + \cot x}{\cot x}$

6) $\sec \theta \cot \theta - \cot \theta \cos \theta$

7) $\frac{\cot^2 x \cos^2 x}{\cot^2 x - \cos^2 x}$

8) $\frac{(\sin x + \tan x)^2 + \cos^2 x - \sec^2 x}{\tan x}$

9) $(\sin \theta)(\cos \theta)(\sec \theta)(\csc \theta)$

$$11) \frac{\cot x}{\csc x}$$

$$12) \cot x + \tan x$$

$$13) \frac{\csc x(1-\cos^2 x)}{\sin x \cos x}$$

$$14) \frac{\tan x + \cot x}{\sec x}$$

$$15) \cot \theta \cdot \sec \theta$$

$$16) \sin^2 \theta + \tan^2 \theta + \cos^2 \theta$$

$$17) \frac{\sec^2 x - 1}{\tan^2 x}$$

$$18) \frac{1 - \cos^2 x}{\sin x}$$

$$19) \cos \theta \cdot \csc \theta \cdot \tan \theta$$

$$20) \sin^2 \theta - \cos^2 \theta \cdot \sin^2 \theta$$

$$21) \cos x + \sin x \cdot \tan x$$

$$22) \frac{1}{1 + \cos x} - \frac{1}{1 - \cos x}$$