

Advanced Math 7.2 Extra Practice

Name _____

Prove the given identity.

N. $\cot^2 \theta + \cos^2 \theta + \sin^2 \theta = \csc^2 \theta$

O. $\frac{\sin \theta}{\csc \theta} + \frac{\cos \theta}{\sec \theta} = \sin \theta \csc \theta$

P. $\tan^2 x - \sin^2 x = \tan^2 x \sin^2 x$

Q. $\frac{\sin \theta}{\sin \theta + \cos \theta} = \frac{\tan \theta}{1 + \tan \theta}$

$$\text{R. } \frac{\cot \theta - \tan \theta}{\sin \theta \cos \theta} = \csc^2 \theta - \sec^2 \theta$$

$$\text{S. } \frac{1 - \sin^2 \theta}{1 + \cot^2 \theta} = \sin^2 \theta \cos^2 \theta$$

$$\text{T. } \frac{\tan^2 \theta}{1 + \tan^2 \theta} = \sin^2 \theta$$

$$\text{U. } \frac{\tan x}{1 + \sec x} + \frac{1 + \sec x}{\tan x} = 2 \csc x$$

$$1. -\tan x \cos x = \sin(-x)$$

$$2. \cot^2 x (1 + \tan^2 x) = \csc^2 x$$

$$3. \frac{\sec x}{\csc x} = \tan x$$

$$4. \cot x \sin x = \cos x$$

$$5. \cos x \csc x = \cot x$$

$$6. \frac{\cos x + \sin x}{\sin x} = 1 + \cot x$$