Trig Identities
Verifying Identities WS 2

Name _____

Verify the identity.

1. $\sin^3 \theta + \sin \theta \cos^2 \theta = \sin \theta$

2. $\dfrac{1 + \sec(-x)}{\sin(-x) + \tan(-x)} = -\csc x$

3. $\sec x + \tan x = \dfrac{\cos x}{1 - \sin x}$

4. $\dfrac{\cos x - \cos y}{\sin x + \sin y} + \dfrac{\sin x - \sin y}{\cos x + \cos y} = 0$

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

6. $\dfrac{\csc^2 x - 1}{\csc^2 x} = \cos^2 x$

7. $\dfrac{1}{1 - \cos x} + \dfrac{1}{1 + \cos x} = 2\csc^2 x$

8. $\left(\cot^2 \theta + 1\right)\left(\sin^2 \theta - 1\right) = -\cot^2 x$

9. $\csc x + \cot x = \dfrac{\sin x}{1 - \cos x}$

10. $\dfrac{\sin x \cos y + \cos x \sin y}{\cos x \cos y - \sin x \sin y} = \dfrac{\tan x + \tan y}{1 - \tan x \tan y}$