Algebra II/Trig B Name _____

Proving Trigonometric Identities #1
Homework
Module 3, Unit 7, Lesson 12

Prove each identity.

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

2. $2\tan\theta\csc\theta\cos\theta=2$

3. $\dfrac{1-\cos^2 y}{\cos y}=\sin y\tan y$

4. $\dfrac{\tan\theta\cot\theta}{\csc\theta}=\sin\theta$

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

6. $\dfrac{\sin\theta}{1-\cos\theta} + \dfrac{1-\cos\theta}{\sin\theta} = 2\csc\theta$

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

8. $\sec x - \sec x \sin^2 x = \cos x$

9. $\dfrac{\csc^2 t}{\cot t} = \csc t \sec t$

10. $\dfrac{\cos^2 x - \sin^2 x}{1-\tan^2 x} = \cos^2 x$