Prove each of the following trigonometric identities.

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

2. $\cos^4 x + 2\cos^2 x \sin^2 x + \sin^4 x = 1$

3. $\sin^4 x + \sin^2 x \cos^2 x = \sin^2 x$

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

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

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

7. $\sin^4 x - \cos^4 x + \cos^2 x = \sin^2 x$

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