

## Math1080 Extra Practice on Verifying Identities

Verify these trigonometric identities.

$$1. \quad \frac{\cot^2 \theta}{1 + \csc \theta} = \frac{1 - \sin \theta}{\sin \theta}$$

$$2. \quad \frac{\cos \theta \cot \theta}{1 - \sin \theta} - 1 = \csc \theta$$

$$3. \quad \cos \theta + \sin \theta \tan \theta = \sec \theta$$

$$4. \quad \frac{1}{1 + \sin \theta} + \frac{1}{1 + \csc \theta} = 1$$

$$5. \quad \frac{1 + \sin \theta}{\cos \theta} + \frac{\cos \theta}{1 + \sin \theta} = 2 \sec \theta$$