

Math Analysis Worksheet

4.1 Identities

Prove the following identities.

1. $\frac{\tan^2 \theta}{\sin^2 \theta} = \sec^2 \theta$

2. $\sec^2 \theta - \tan^2 \theta = \sin^2 \theta + \cos^2 \theta$

3. $\csc^2 A - \cot^2 A = \cos A \sec A$

$$4. \cos x(\sec x - \cos x) = \sin^2 x$$