

Advanced Mathematics:

Proving Trigonometric Identities

Worksheet #2

Verify the following trigonometric identities.

1. $\cos A (\sec A - \cos A) = \sin^2 A$

2. $\sec A - \cos A = \sin A \cdot \tan A$

3. $(\sec A) (\sec A - \cos A) = \tan^2 A$

4. $\sin A + \cos A \cdot \cot A = \csc A$

5. $\sec^2 A (1 - \sin^2 A) = 1$

6. $1 - \sin A \cdot \cos A \cdot \tan A = \cos^2 A$

7. $\cos A (\csc A - \sec A) = \cot A - 1$

8. $\csc A (\csc A + \cot A) = \frac{1}{1 - \cos A}$

9. $\sin^4 A - \cos^4 A = 2 \sin^2 A - 1$

10. $(\csc A - 1)(1 + \csc A) = \frac{\csc A \cdot \cos A}{\sec A \cdot \sin A}$