Verifying Identities

Pythagorean Identities

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

2. $1 + \tan^2x = \sec^2x$
   $-\tan^2x = \sec^2x - 1$
   $-1 = \sec^2x - \tan^2x$

3. $1 + \cot^2x = \csc^2x$
   $-\cot^2x = \csc^2x - 1$
   $-1 = \csc^2x - \cot^2x$

1. $\cot x = \cos x \csc x$

2. $2\sec^2x = \frac{1}{1-\sin x} + \frac{1}{1+\sin x}$

3. $\frac{\sec x - 1}{\sec x + 1}$ X $\frac{\cos x - 1}{\cos x + 1}$

4. $Sin^2x + sinx + cos^2x - 1$

5. Cscx ÷ Cotx + tanx

6. Cscx – cotx ÷ secx -1

7. Cosx + tanxsinx