Problem 1 – Using the Calculator for Verification

Prove: $(1 + \cos x)(1 - \cos x) = \sin^2 x$.

Verify the proof graphically. Enter the left side of the equation in **Y1** and the right side of the equation in **Y2**.

For problems 2 through 5, prove the equation given, and then verify it graphically. For cot *x*, type (1/tan *x*). For sec *x*, type (1/cos *x*).

2. $\sin x \cdot \cot x \cdot \sec x = 1$

3. $\dfrac{\sec^2 x - 1}{\sec^2 x} = \sin^2 x$

4. $\tan x + \cot x = \sec x(\csc x)$

5. $\dfrac{\sin^2 x - 49}{\sin^2 x + 14\sin x + 49} = \dfrac{\sin x - 7}{\sin x + 7}$