PROCEDURES FOR PROVING IDENTITIES

1. Usually it’s easier to start with the side that is more complicated.
2. It is usually a good idea to change all trigonometric functions to and and simplify.
3. Look for algebraic things to do
   1. If there are two terms and you want one,
      1. Simplify by combining fractions.
      2. Factor something out
   2. If there is one term and you want two,
      1. If the denominator of a fraction consists of only one function, break up the fraction
   3. Multiply by a clever form of 1
      1. Multiply by the conjugate of either the numerator or denominator.
   4. Do any obvious algebra such as distributing, squaring, or multiplying polynomials
4. Look for trigonometric things to do
   1. Use trig identities
   2. If there are squares of functions, look for alternate forms of the Pythagorean Identities.
5. Avoid the introduction of radicals.

**Class Examples:**

Transform:

1. 

Prove the identity: (You can choose either side to start with)

1. 
2. 