PC6-4 Identities Notes

Two functions f and g are said to be **identically equal** if

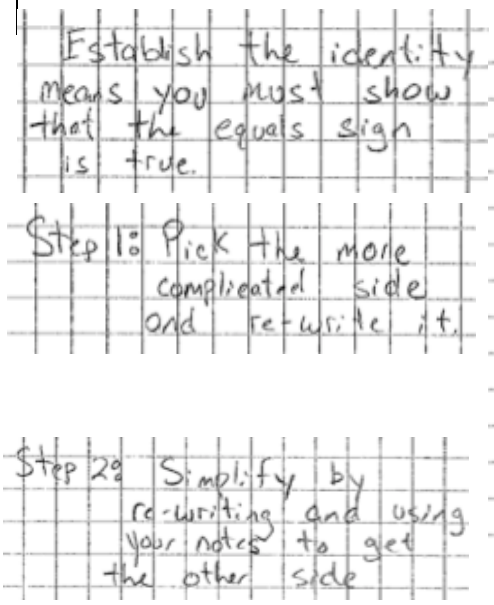
$$f(x) = g(x)$$

for every value of x for which both functions are defined. Such an equation is referred to as an **identity.** An equation that is not an identity is called a **conditional equation.**

Warning Be careful not to treat identities as if they were conditional equations. In an identity, you are trying to prove the equality holds. Multiplying or adding a number to each side is **not** allowed.

Example 1: Establish the identity

$$\frac{\cot\theta}{\csc\theta} = \cos\theta$$



Example 2: Establish the identity

$$1 - \frac{sin^2\theta}{1-\cos\theta} = -\cos\theta$$