Chapter 5, Math 170 Special Proof Assignment Due: _____

The purpose of this assignment is for you to learn how to write a proof that makes a clear and easy to read argument. (I'll be looking for good form). You will also be developing your logical abilities as you transform identities. Consider each proof as an English paper. Your first try will be like the rough draft. If your rough draft is perfect, then you can get full credit and be done. If your first draft is not perfect because of bad form or bad logic, you'll get one chance to rewrite the proofs.

Write your proofs on another piece of paper. Write neatly and use the proper form. The proofs #1 - #3 are an 10 point assignment.

1) Prove: $\sin(A + B) + \sin(A - B) = 2 \sin A \cdot \cos B$

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

3) Prove: $2\cot (2x) = \cot x - \tan x$

Proof #4 is extra credit. Do this proof on another piece of paper; write it neatly and with proper form for an extra 5 points. By the way, it is not easy, so don't attempt it until you have finished the others.

4) Prove: $\sec(A - B) = \dfrac{\cos(A + B)}{\cos^2 A - \sin^2 B}$

[Grading:
GF = good form, GL = good logic, BF = bad form, BL = bad logic.
BF on the introduction is minus half.
No conclusion is BF which is minus 1.
BF on the body of the proof is minus half to minus one depending on the mistake.
BL is minus one to minus 2 depending on the error.]