Final exam for Math 534.

1. Prove the global existence and uniqueness theorems for connected semisimple algebraic groups. (You can use any facts that we have proved in class).

2. Prove that the simply connected cover of $SO_3(\mathbb{C})$ is the group $SL_2(\mathbb{C})$.

3.** Prove that the simply connected cover of $SO_5(\mathbb{C})$ is $Sp_4(\mathbb{C})$. 