Name_____ **UIN**_____

Quiz 3
CPSC 411 Spring 2009

Problem 1 (2 points)
Peter claims that Prim's algorithm to compute a minimum spanning tree of a connected graph G is based on the greedy algorithm for matroids. Is Peter right?

Problem 2 (1 point)
A matroid consists of a pair (S, F), where S is a set and F is a nonempty family of subsets that is subject to some constraints. Paul claims that one such constraint is that any subset of a set B in F is contained in F. Is Paul right?

Problem 3 (2 points)
Mary says that greedy algorithms have the following two key properties: The *optimal substructure* and the _____ property.