Last name _____

First name _____

LARSON—OPER 731—CLASSROOM WORKSHEET 24
Matroids & the Greedy Algorithm

Matroids

1. What is a *matroid*?

Checking the Matroid Axioms

2. What is a *linear matroid*?

3. What is a *graphic matroid*?

4. What is a *uniform matroid*?

Rank, Bases & the Greedy Algorithm

5. What is the *rank* of a matroid?

6. What is a *base* of a matroid?

7. What is the (cardinality) *greedy algorithm* for a matroid M?

8. *Why* does the greedy algorithm *always* produce an optimum solution (for a matroid optimization problem)?

9. What is the *weighted greedy algorithm* for a matroid M?