

Last name _____

First name _____

LARSON—MATH 656—CLASSROOM WORKSHEET 02
Matching Theory.

Concepts & Notation

- Sec. 3.1: matching, saturate, maximum vs. maximal matching, M-alternating path, M-augmenting path, Berge's Theorem, Symmetric Difference Lemma, Hall's Condition, Hall's Theorem, Marriage Theorem, k -regular bipartite graph theorem, vertex cover, König-Egervary Theorem.

Review

1. What is *Berge's Theorem*?
2. What is the *Symmetric Difference Lemma*
3. Prove it!
4. What is *Hall's Condition*?
5. What is *Hall's Theorem*?

Notes

1. Prove it!
2. What is the Marriage Theorem?
3. Prove it!
4. What can we say about k -regular bipartite graphs?
5. Prove it!
6. What is a vertex cover?
7. What is the notation for the vertex covering number—and the matching number?
8. What is the König-Egerváry Theorem?
9. Prove it!