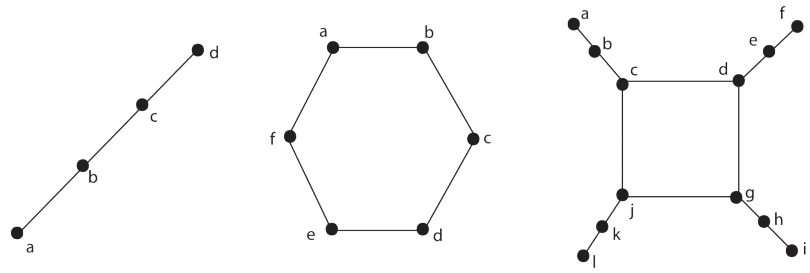
Last name _____

First name _____

LARSON—MATH 756—CLASSROOM WORKSHEET 05
Bipartite Graphs & Matching

1. For each of the following graphs fix a vertex v. Find $E = \{w : d(v,w) \text{ is even }\}$ and $O = \{w : d(v,w) \text{ is odd }\}$. Show G is bipartite by checking that E and O are independent sets.



2. Find a maximum matching and the matching number ν for each of the above graphs.

3. Find a minimum vertex cover and the covering number β for each of the above graphs.

4. Check that the mini-max version of König's Theorem holds for each of the above graphs.