## MATH F113X: Eulerization

The goals are to understand:

- how to Eulerize a graph
- why you would Eulerize a graph
- how to put Dijkstra's algorithm together with Euler circuits
- 1. Recall problem 5 from Worksheet 12:

Add (the fewest number of) edges to the graph below in order to force every vertex to have even degree. Then find an Euler circuit in the resulting graph.



Below are several answers from the worksheet. What do you observe?





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2. **Definition:** To **eulerize** a graph *G* means

3. Definition: An optimal eulerization means

4. Under what conditions do you think it is *easy* to obtain an optimal eulerization?