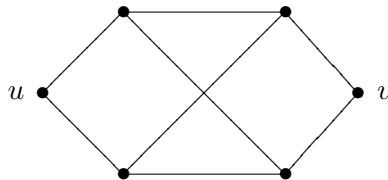


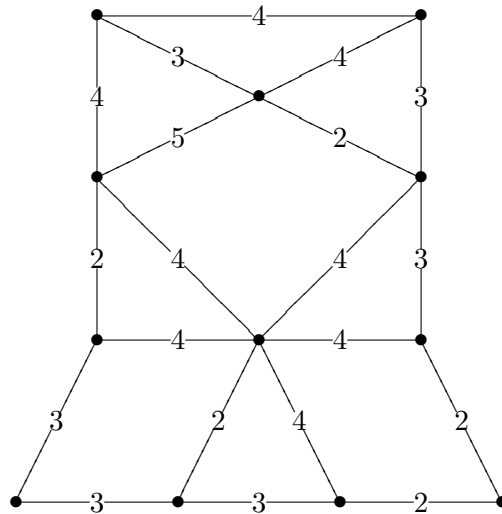
HOMEWORK 5

5 PROBLEMS
DUE: FRIDAY, MARCH 11, 2011

- (1) Compute the total resistance between u and v in the electrical network of resistors shown below, where one diagonal resistor is two ohms, the other diagonal resistor is three ohms, and the remaining resistors are one ohm.

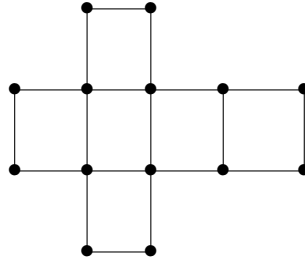


- (2) Find a minimal cost spanning tree using both Kruskal's and Prim's algorithms.



- (3) Prove, directly from the definition, that every subgraph of a bipartite graph is also bipartite.

- (4) Determine whether the given graph is Eulerian. If it is, find an Eulerian circuit. If it is not, prove it is not.



- (5) Determine whether the given graph is Hamiltonian. If it is, find a Hamiltonian cycle. If it is not, prove it is not.

