Assignment 6

Name ___________________________

1. Consider the following graph. Identify the degree of each vertex.

2. a. Is the graph below connected? Explain your reasoning.

b. Is the graph below a complete graph? Explain your reasoning.

3. a. Is the graph below Eulerian? Why or why not?

b. Is the graph below Hamiltonian? Why or why not?

4. a. Is the graph below bipartite? Why or why not?

b. Is the graph below a clique? Why or why not?

5. a. Determine whether the following graph is planar or non-planar. Explain your reasoning.

b. Draw a planar graph if it is planar.

6. Find an Eulerian circuit in the following graph.

7. Find a Hamiltonian cycle in the following graph.

8. Find a spanning tree in the following graph.

9. a. Find a minimum spanning tree in the following graph.

b. Find a maximum spanning tree in the following graph.

10. a. Find an edge coloring for the following graph.

b. Find a vertex coloring for the following graph.

11. a. Find a perfect matching in the following graph.

b. Find a maximum matching in the following graph.

12. a. Find a minimum weight perfect matching in the following graph.

b. Find a maximum weight matching in the following graph.

13. a. Find a minimum cut in the following graph.

b. Find a maximum flow in the following graph.

14. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

15. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

16. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

17. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

18. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

19. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

20. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

21. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

22. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

23. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

24. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

25. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

26. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

27. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

28. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

29. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

30. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

31. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

32. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

33. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

34. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

35. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

36. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

37. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

38. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

39. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

40. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

41. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

42. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

43. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

44. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

45. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

46. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

47. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

48. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

49. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.

50. a. Find a minimum cut in the following graph.

b. Find a maximum cut in the following graph.