Discrete Math HW #2

Chapter 1 pp. 25-32

(2 pts. each)

#3, 7, 18, 19

Complete the questions below

(4 pts each)

1. Draw a connected graph with ten or more vertices where each vertex has odd valence.

2. Draw a connected graph with no Euler circuit that can be Eulerized by the addition of one edge or by the addition of two edges. Show how to draw these extra edges.

Chapter 2 pp. 61-72

(2 pts. each)

#3, 5, 11ab (omit c), 40, 46a, 48

Complete the questions below

(5 pts each)

3. Find a graph on four vertices where the nearest-neighbor algorithm fails as badly as possible, i.e. the difference between the nearest-neighbor weight and the optimal weight is as large as possible. Note, all edge weights must be integers between 0 and 10 inclusive.

4. Find a graph on four vertices where the sorted-edges algorithm fails as badly as possible, i.e. the difference between the sorted-edges weight and the optimal weight is as large as possible. Note, all edge weights must be integers between 0 and 10 inclusive.