

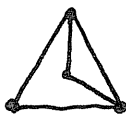
Math 113

HW 3B

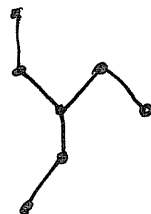
Due Wednesday, February 10

Q1: Applying the steps from class, reduce the graph down to the graph with one vertex and no edges. Keep track at each step of how the Euler characteristic changes.

a)



b)



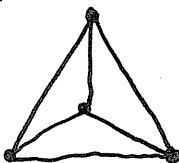
c)



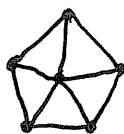
Q2: For each planar graph, draw the dual graph.

Compare the number of vertices, edges, and faces in the dual with the numbers for the original graph.

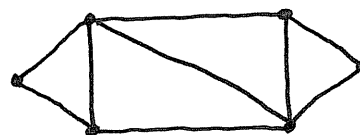
a)



b)



c)



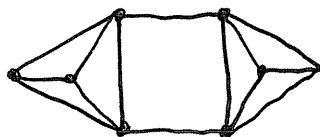
Q3: For each graph, give a 4-coloring. (Use Red,

Blue,

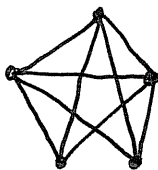
Green,

Yellow)

a)



b)



c)

