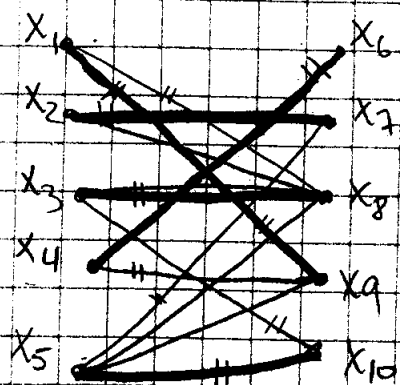


Math 2865 Assignment #4

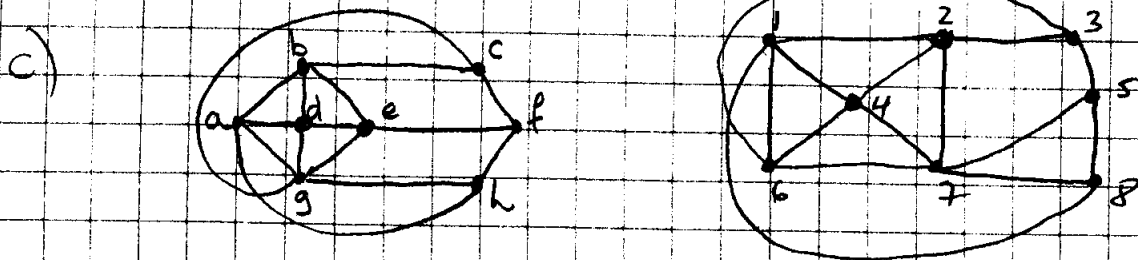
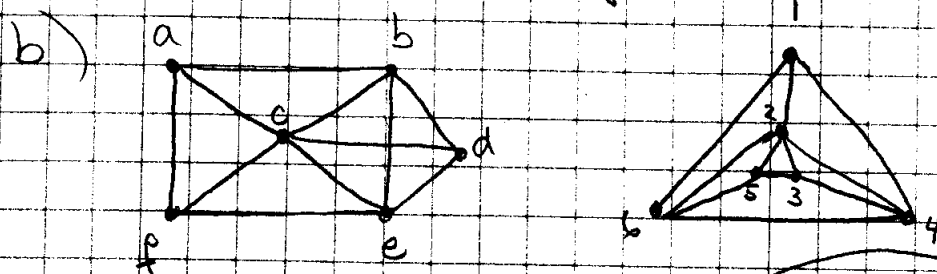
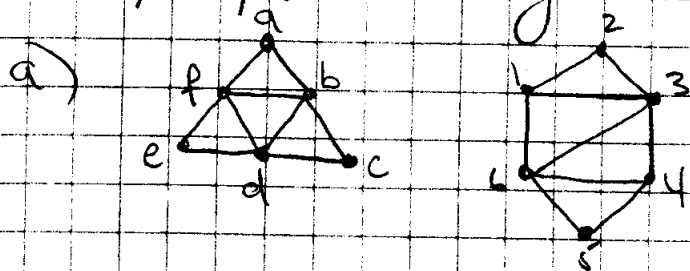
1) Is the matching shown in the following graph maximal? Explain



$$x_6 \rightarrow x_{11} - x_9 - x_1 - x_8 - x_3 - x_{10} - x_5$$

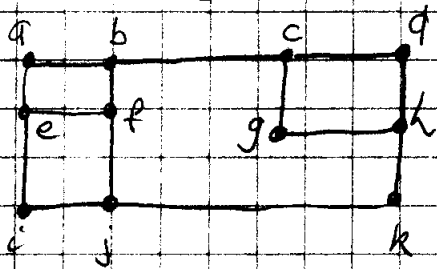
$$x_7 \rightarrow x_2 \rightarrow x_8$$

2) Which of the following graphs are isomorphic? If they are, give the isomorphism. If they are not, explain why.



3) For which values of n does K_n , the complete graph on n -vertices, have an Euler cycle? Are there any K_n that have Euler trails but not Euler cycles? For which values of r and s does the complete bipartite graph $K_{r,s}$ have an Euler cycle?

4) What is the minimum number of times one must raise one's pencil in order to draw the following graph:



Hint: Look at Euler's trails.

5) Find a Hamilton path and prove that no Hamilton circuit exists in the following graph

