

MATH 2113/CSCI 2113, Discrete Structures II

Winter 2008

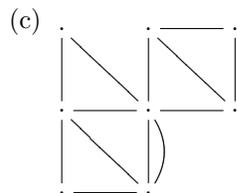
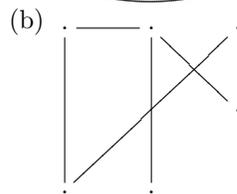
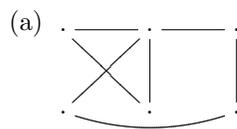
Toby Kenney

Homework Sheet 7

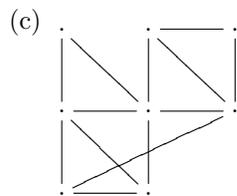
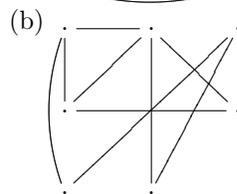
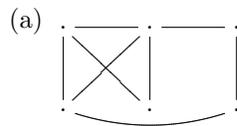
Due: Wednesday 19th March: 1:30 PM

Compulsory questions

1 Which of the following graphs have Euler circuits?

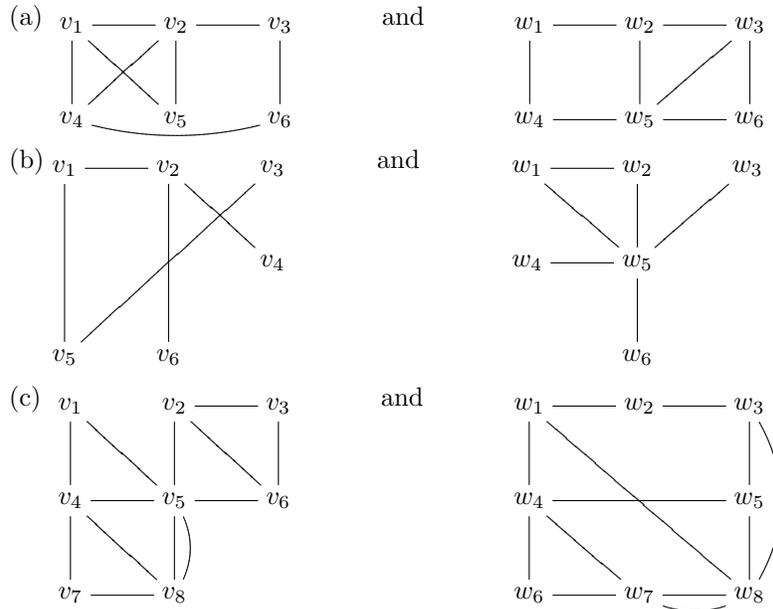


2 Find Hamiltonian circuits in the following graphs.

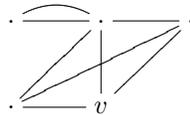


- 3 (a) Draw a simple graph with vertices of degrees 2,2,3,3,4,5,6,6,7.
 (b) Is there a simple graph with vertices of degrees 2,3,4,5,6,6,6,6,7?

- 4 Which of the following pairs of graphs are isomorphic? For pairs which are isomorphic, write down the isomorphism. For pairs which are not isomorphic, give a reason why they are not isomorphic.



- 5 Write down the adjacency matrix for the following graph. How many cycles of length 3 are there that pass through the vertex v ?



- 6 For which values of m and n does the complete bipartite graph on m and n vertices have a Hamiltonian cycle? Justify your answer.