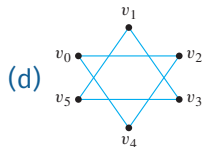
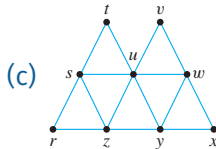
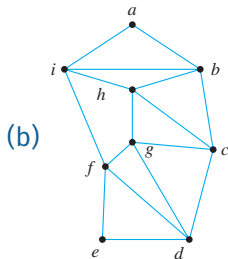
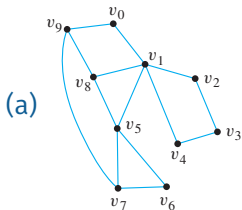


# Discuss with your partner(s)

1. In the Petersen graph, find  
(a) a trail of length 5      (b) a path of length 9      (c) cycles of length 5, 6, 8, and 9
2. Prove that if  $G$  has an Euler circuit, then every vertex of  $G$  has even degree.
3. For each graph, find an Euler circuit or explain why one does not exist.



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4. For each graph in #3, find an Hamiltonian circuit or explain why one does not exist.

5. For each graph, find an Hamiltonian circuit or explain why one does not exist.

