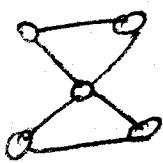


41

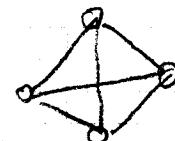
a)



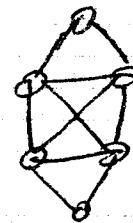
b)



c)



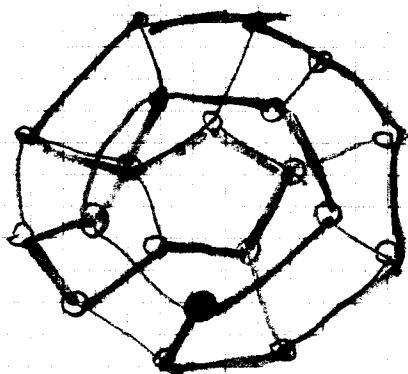
d)



42

a) has no hamiltonian path.

b)

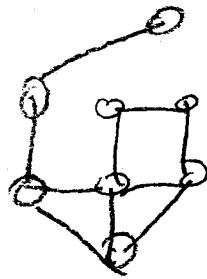


43

b) the graph has Eulerian cycle all vertices have even degree.

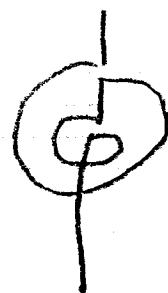
If G graphs has Eulerian path but not Eulerian cycle, add an edge between start and last vertex (increasing their degree by one) Have 4 on Eulerian cycle, thus all degrees in new graph are even. Thus in old graph exactly two vertices of odd degree.

44



45

No - by problem 43 no Euclidean path
(consider all intersections as vertices.)



and so on for second graph,
thus yes.