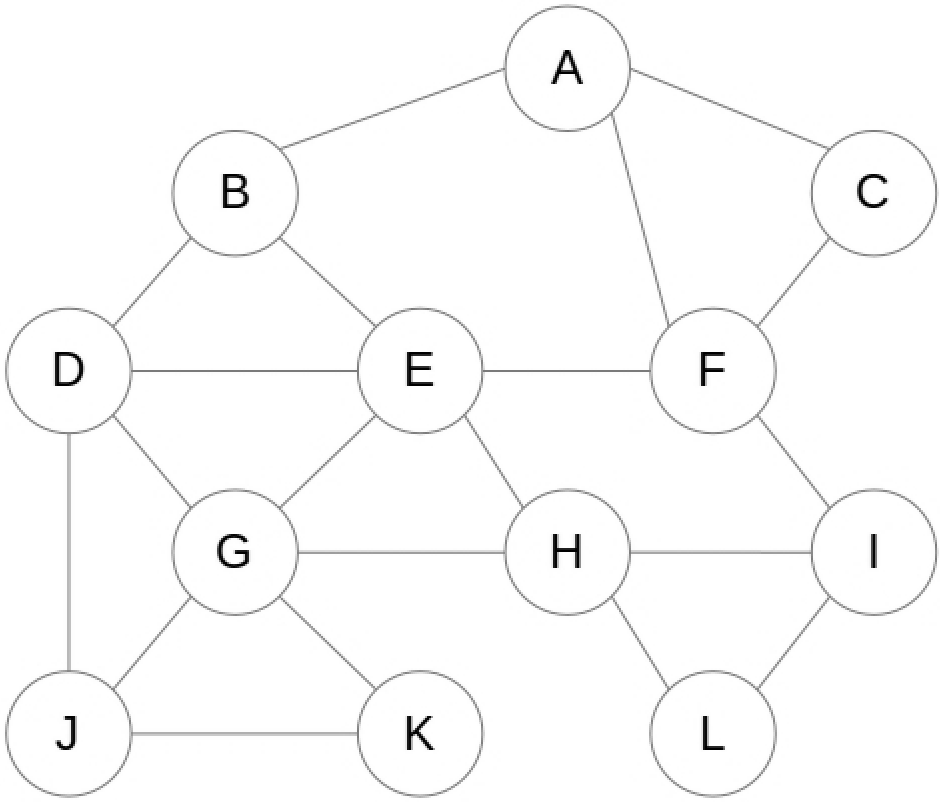
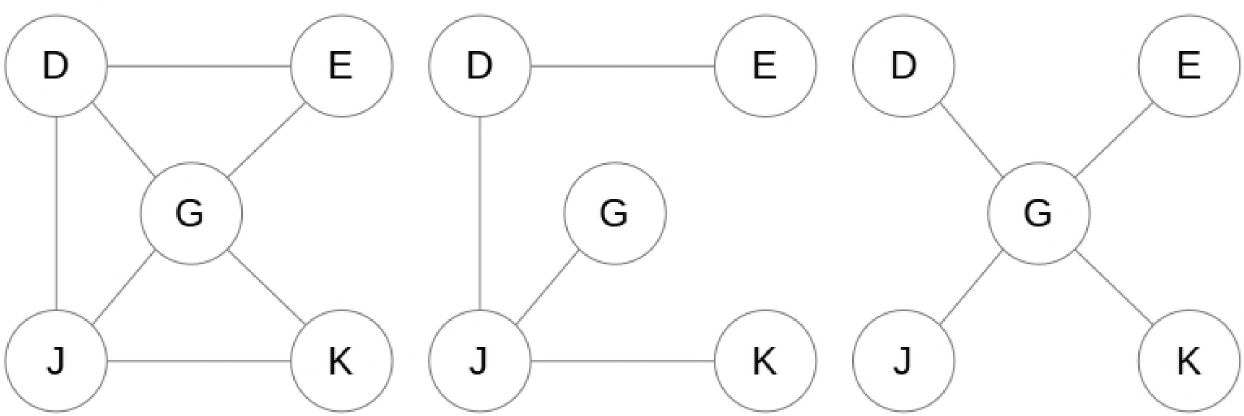
Discrete Mathematics **Quiz #7** **Name: ____________________**

Question 1 [3 points]

Consider the graph *G* below.



For each of the following three graphs, identify whether it is an induced subgraph of *G*, a non-induced subgraph of *G*, or not a subgraph of *G*.



Continued on reverse…

Question 2 [1 point]

Let $G = (V, E)$ be a simple graph and let S be a nonempty proper subset of the vertices V. How many induced subgraphs of G have S as their vertex set?

Question 3 [4 points]

For each of the following graphs, give the number of vertices and the number of edges.

$K_{7,3}$ K_{12} P_9 C_5

Question 4 [2 points]

Are the following two graphs isomorphic? Explain your answer.