

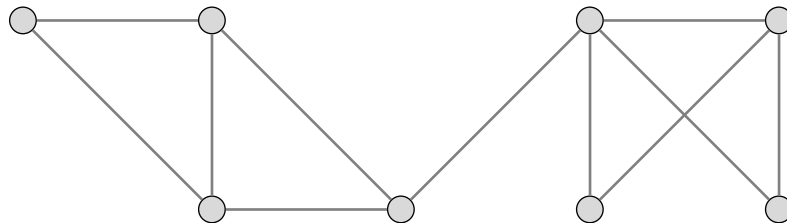
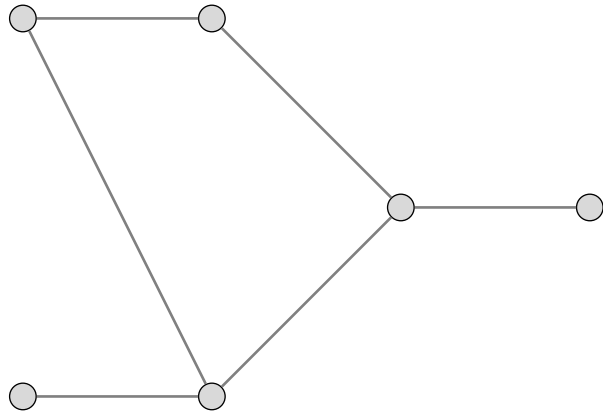
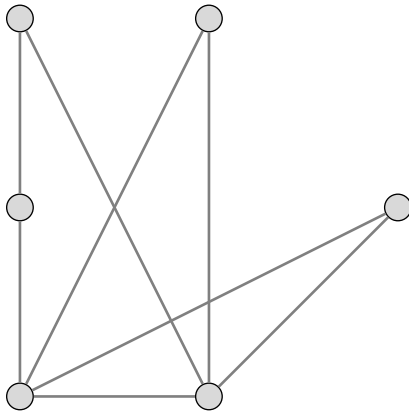
GRAPH TOPICS

TEXT: 12.1, 12.3

LAST NAME	FIRST NAME	DATE
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1 (6 points). For each of the following three graphs,

- Identify the degree of each vertex
- Highlight the bridges

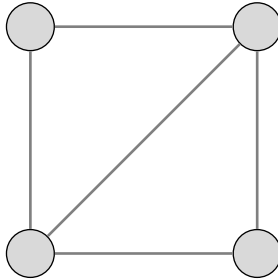
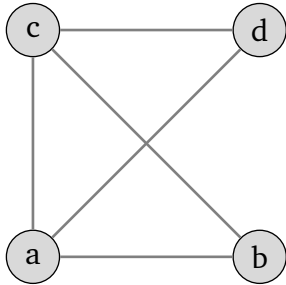


2 (1 point). Draw the utilities graph $K_{2,2}$

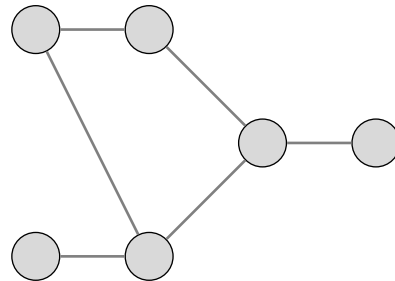
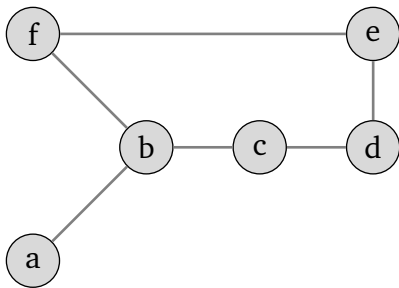
3 (1 point). Draw the utilities graph $K_{3,4}$

4 (5 points). For each pair of graphs, determine whether they are isomorphic or not. If yes, state the isomorphism by assigning letter names to the vertices in a way that makes the shown graphs equivalent. If no, explain why.

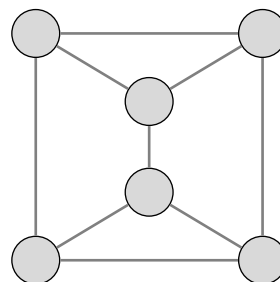
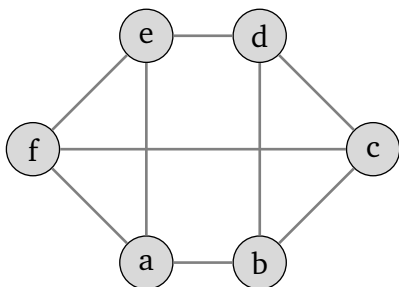
(a)



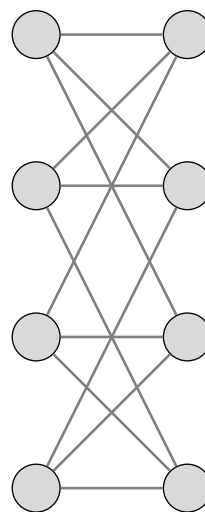
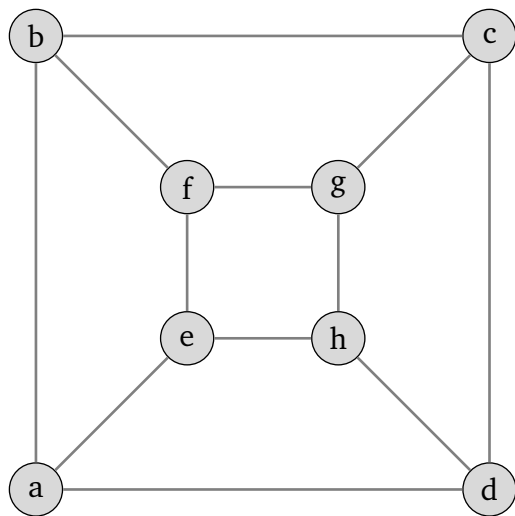
(b)



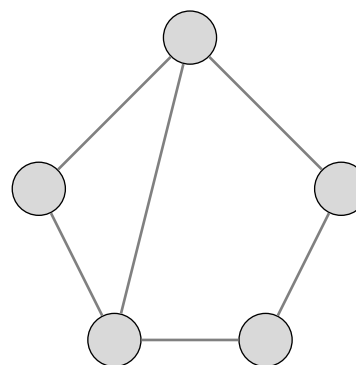
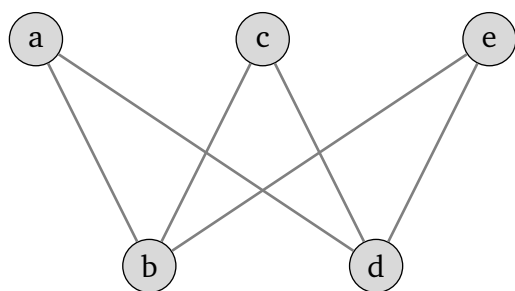
(c)



(d)



(e)



5. What are the degrees of vertices in the utilities graph $K_{n,m}$?

6. How many edges does the graph $K_{n,m}$ have?

7 (1 point). Draw all non-isomorphic trees with 3 vertices.

8 (2 points). Draw all non-isomorphic trees with 4 vertices.

9 (3 points). Draw all non-isomorphic trees with 5 vertices.

10 (6 points). Draw all non-isomorphic trees with 6 vertices.