

HOMEWORK

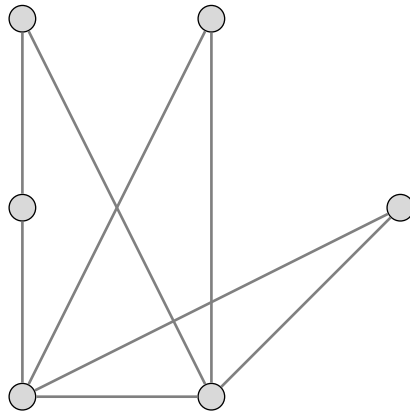
TEXT: 12.3, 12.4, 12.10

LAST NAME	FIRST NAME	DATE
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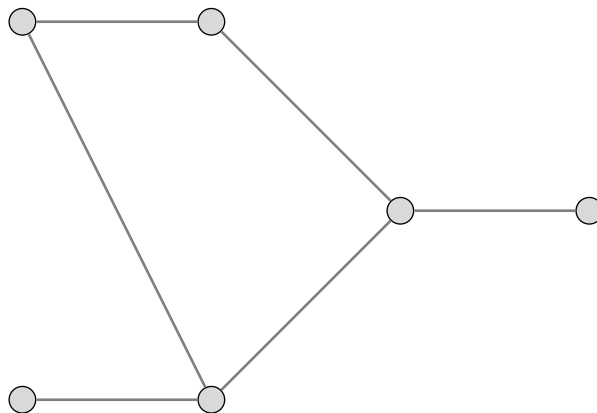
For each of the following graphs,

- State the number of vertices
- State the number of edges
- Label the degree of each vertex

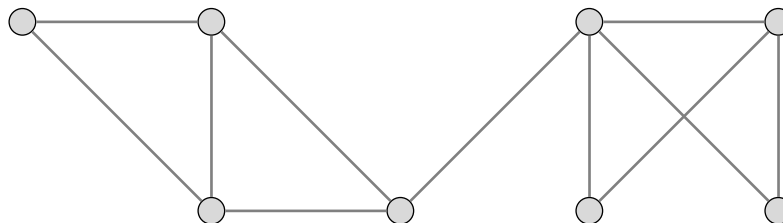
1.



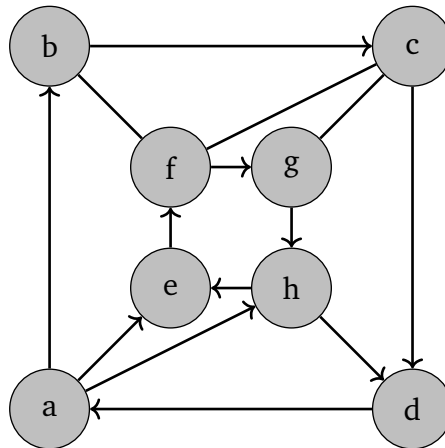
2.



3.



4. Fill out the adjacency matrix for the shown directed graph.

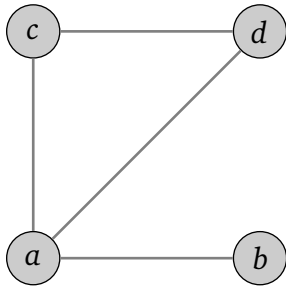


	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>e</i>	<i>f</i>	<i>g</i>	<i>h</i>
<i>a</i>								
<i>b</i>								
<i>c</i>								
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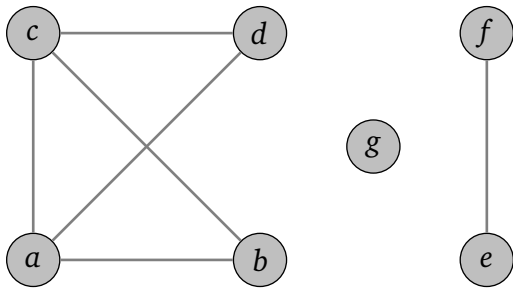
5. 1 Draw the utilities graph $K_{3,4}$

6. 1 Draw the utilities graph $K_{5,5}$

7. Draw the complement of the given graph:



8. Draw a complement of the given graph:



9. Draw a graph where vertices are integers from 12 to 20, and two vertices are related iff they have at least one prime factor in common.

For each of the following questions, explain your reasoning with a logical argument and/or an illustrative drawing.

10. What is the degree of each vertex in the graph K_n ?

11 (†). How many edges does the graph K_n have?

12. What are the degrees of vertices in the utilities graph $K_{n,m}$? More specifically, how many vertices of each degree are there?

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

ANSWERS