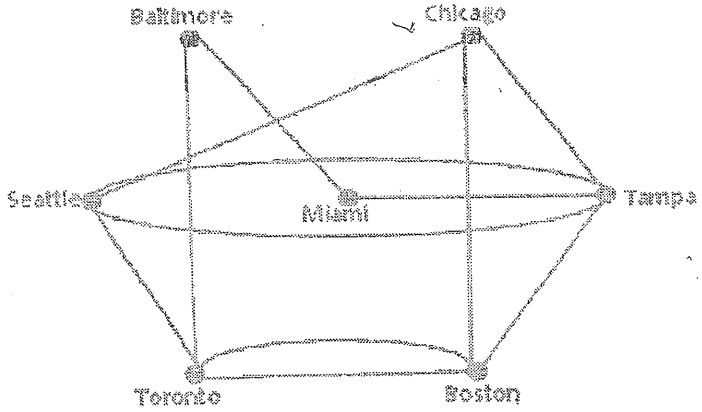
Section 15.1

Examples:

1. The graph models the soccer schedule for a week. The vertices represent the teams. Each game played during that week is represented as an edge between two teams. Use the information in the graph to answer the questions below:



a. How many games are scheduled for Baltimore? List the teams they are playing. 2 Miami + Toronto

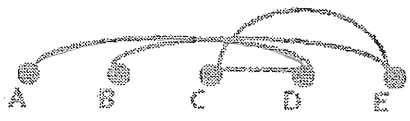
b. How many games are scheduled for Seattle? List the teams they are playing. 4 Chicago, Tampa (x2), Toronto

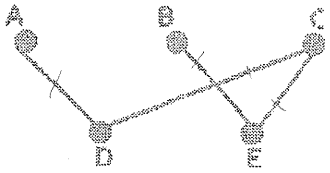
c. How many games are scheduled for Tampa? List the teams they are playing. 4 Seattle (x2), Miami, Chicago

d. How many times does Seattle play against Tampa?

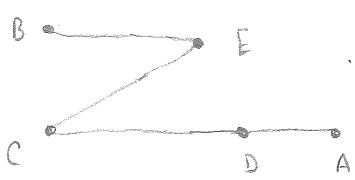
2

2. Explain why the two figures show equivalent graphs. Then draw a third equivalent graph.



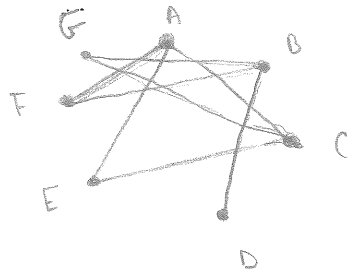


Same # vertices, connected the same way



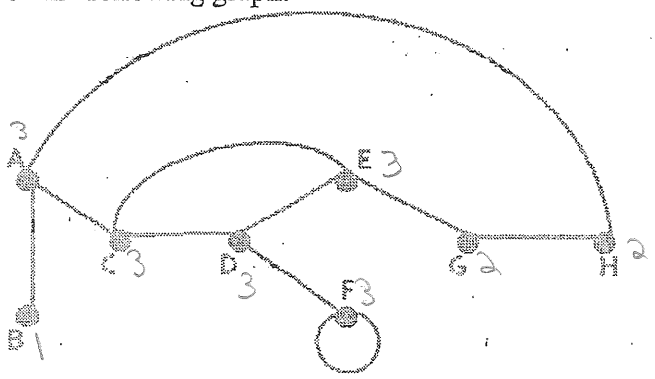
Section 15.1 continued

3. Seven students form a homework group. The students in the group are Abe, Betty, Charlie, Devon, Ellen, Frank, and Gavin. Prior to forming the group, Abe was friends with Charlie, Ellen and Frank. Betty was friends with Devon, Frank, and Gavin. Charlie was friends with Ellen and Gavin. Draw a graph that models pairs of friendships among the seven students prior to forming the homework group.



SAME AS NOTES EX 6

4. Use the following graph:



a. Find the degree of each vertex in the graph.
b. Identify the even vertices and identify the odd vertices. Even: G, H Odd: A, B, C, D, E, F
c. Which vertices are adjacent to vertex C? A, D
d. Which vertices are adjacent to vertex G? E, H
e. Use vertices to describe two paths that start at vertex A and end at vertex H. Are they any others? A, H A C E G H A C D E G H Yes
f. Is there an edge that is considered a bridge? Why or why not? AB removing edge makes disconnected
g. Which edge could be removed to create a bridge in the graph? Which edge would be that bridge?

AH GH