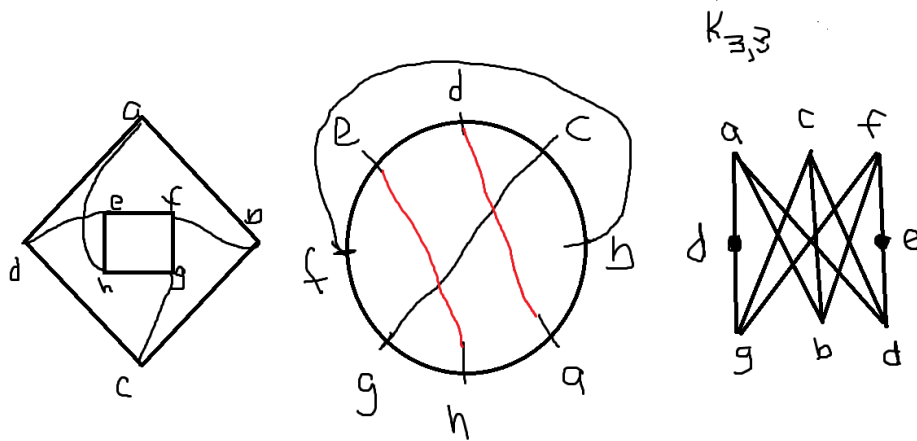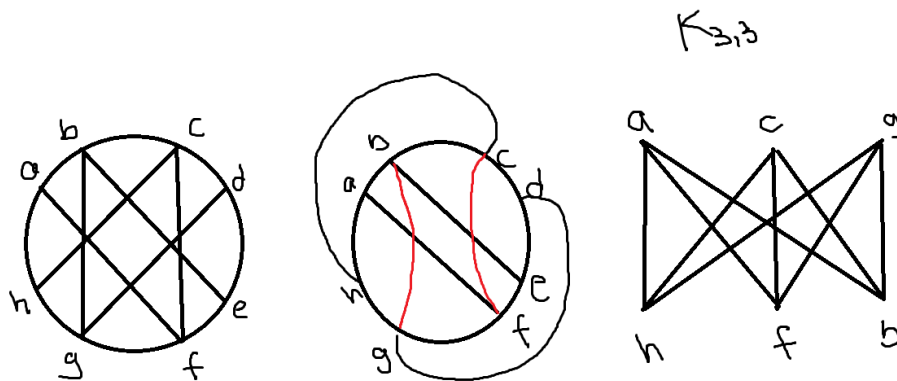Ivan Lin
Dr. Esther Arkin
AMS301
1/31/17

Homework 2b

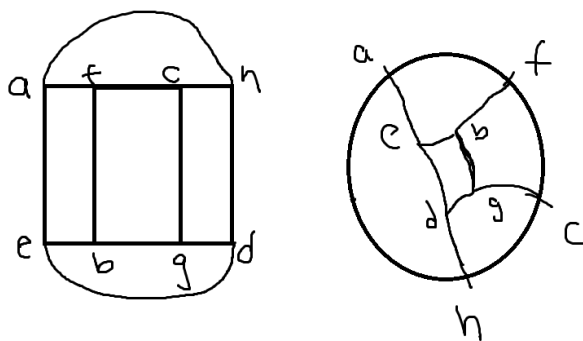Section 1.4 Problem 3
j. nonplanar - subgraph is a $K_{3,3}$ subdivision
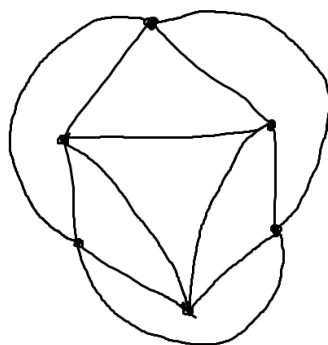

k. nonplanar - subgraph is a $K_{3,3}$ subdivision

<u>Section 1.4 Problem 4</u>

<u>Section 1.4 Problem 7</u>

e.

j. Not possible. If each vertex is of degree 5, this means that the graph is formed of pentagons and that each region is enclosed by 5 edges. The number of edges is equal to the sum of the edges for each region divided by 2. 17 regions * 5 edges each = 85. It is not possible to have $\frac{85}{2}$ edges.