Chapter 10.8
Tuesday, Week 8

Warmup

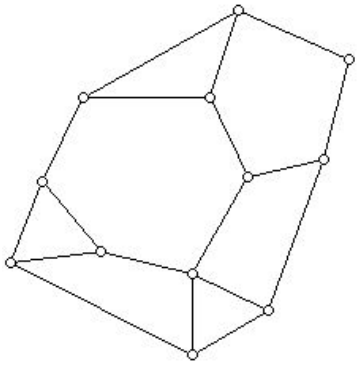
If possible, give a planar representation of

1. K_4
2. K_5
3. A cube
4. $K_{2,4}$
5. $K_{3,5}$

Draw two graphs with the same number of vertices that are homeomorphic but not isomorphic.

Graph Coloring

This is a map of the United Territories of Pottsylvania:



1. Suppose you want to color the map so that no two adjacent territories have the same color. How many colors do you need?
2. What is the greatest number of territories that can be colored red?

More Coloring

Find a planar graph such that $\chi(G) = 4$.

Find a triangle-free graph such that $\chi(G) = 3$.

Find a planar graph such that $\chi(G) = 5$.