CSC 1300 – Problem Set 7

1. Suppose a connected planar graph has 50 vertices, each of degree 3. Into how many regions does a representation of this planar graph split the plane?

2. Prove that if $G$ is a simple graph with at least 12 vertices, then $G$ and $\bar{G}$ cannot both be planar.

3. Draw a graph with four vertices where neither $G$ nor $\bar{G}$ has a Hamilton circuit

4. Can you draw the following figure without lifting your pencil and without retracing any of the lines? Label the figure and express your answer in terms of graph theory.

5. Help! I have set up a google doc which you are invited to edit to answer some common questions about planarity, traversals, & circuits. 

   This is a collaborative activity for the whole class.

   [Google Doc Link]

   https://docs.google.com/document/d/1Alr7Txs-WD-Sdcl1PijKmXCS64uYDWHnQIqplVBiU/edit?usp=sharing