# MATH 634, Spring 2014
Homework 10
due 5:00pm on Monday, March 10.

Follow the posted homework guidelines when completing this assignment.

Problems **10E**, **10G**, and **10P** should be typed (or written up) and handed in as class starts on Monday 3/10:

10E. Determine the vertex connectivity, edge connectivity, clique number, and independence number of each of the graphs below. (You can ignore the loop in Graph G_4 if it bothers you.)
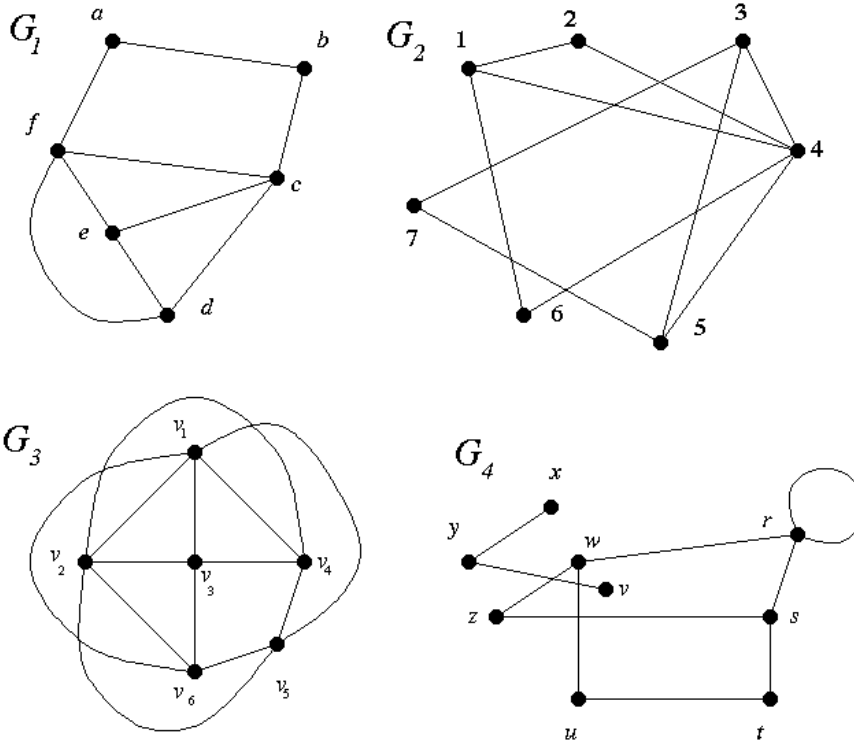
10G. Determine the girth and the diameter of the following graphs: K_n, $K_{m,n}$, Petersen, Dodecahedron, 5D-cube.

Justify your answers and make sure to account for initial cases if they are different.

10P. (a) Prove or disprove: Every 3-connected graph has no bridge.

(b) Prove or disprove: Every 3-edge-connected graph has no cut vertex.

(c) In a graph with vertex connectivity at least two, find an example of a minimal cut set that is not a minimum cut set.