Topics to expect on FINAL. Graph Theory. Math 128A. Winter. 2016. NAME!

Throughout this exam "graph" means simple graph, while "directed graph" will mean directed graph without multiple edges or loops.

Some problems on counting: possible relations and restrictions among: the number n of vertices m of edges k of components c - dimension of cycle space and the dimension of the cut space.

Definition and properties of connected vs unconnected graphs.

Incidence matrix D. As a mapping from the edge space to the vertex space. Properties of. Rank. Kernel. Properties of its transpose.

Parameterization of a line segment in a vector space, given two endpoints.

Prüfer code.

Something about number of cycles, cuts, or spanning trees of a particular graph.

A particular graph. I ask you to find m, n, k, c. Number of spanning trees. Basis for cycle space. For cut space. ....