

Homework 1

Phylogenetic Networks

Due date: 17/04/2014

1. (3 points) Show that the number of simple undirected graphs on n vertices is $2^{\binom{n}{2}}$.
2. (3 points) Let G be a simple undirected graph with six vertices. Show that G has either a clique or an independent set of size three.
3. (2 points) Verify that P_4 is isomorphic to its complement.
4. (2 points) Prove that every closed odd walk contains an odd cycle.