

Coloring and Distinguishing Graphs

Karen L. Collins

Wesleyan University

Thursday, April 14, 2005

L02 Carson Hall, 4:00 pm
(Tea 3:30 pm Math Lounge)

Abstract

Although the problem of finding the chromatic number of a general graph is intractable, Brooks' Theorem says that the chromatic number of a connected graph G is bounded by $1 + D$, where D is the maximum degree of G . The chromatic number of a subgraph of G must be less than or equal to the chromatic number of G , so chromatic number is hereditary in this sense. In contrast, Brooks-type theorems very similar to those for the chromatic number exist for two non-hereditary, Burnside-flavored, contrasting parameters, the distinguishing number and the chromatic distinguishing number, all of which will be described in this talk.