

UCCS Math Colloquium Series

Thursday, September 30, 2010
 12:30-1:30 pm, UC 307
 (Refreshments at 12:15 pm)

Dr. Gene D. Abrams
 University of Colorado at Colorado Springs



...ry $x, y \in W_\Gamma$ we have $x < y$.
 Since the set V of vertices is a genera
 we can write

$$x = \sum_{i \in I} w_i, \quad y = \sum_{j \in J} v_j$$

...re (not necessarily distinct) elements
 Let N_I (resp., N_J) denote $|I|$ (resp., $|J|$)
 ...g with the transitivity of $<$ and the co

with $<$ give

$$x = \sum_{i \in I} w_i < N_I \cdot v < v < N_J \cdot v < \sum_{j \in J} w_j = y,$$

at, for all $x, y \in W_\Gamma, x < y$. ■

The Graph Menagerie: Abstract Algebra meets the Mad Veterinarian

There are recreational math activities known as "Mad Vet Puzzles". I was first exposed to these during a workshop on Math Teacher Circles (at the American Institute of Mathematics in Palo Alto, CA, June 2008), where these were used as the basis of group problem solving activities for teachers and students. (See e.g. <http://www.bumblebeagle.org/madvet>)

Immediately, there was something about these puzzles which struck me as being eerily familiar. On reflection, I realized that they are intimately and highly nontrivially related to the research work I have been doing recently on Leavitt path algebras. (Go figure!)

In this talk I'll describe Mad Vet puzzles, and how they naturally lead to interesting questions about semigroups, groups, and graphs. The talk will definitely be more-than-accessible to anyone who has seen the definition of a group, and basic concepts about such structures.

Undergraduate and graduate students are particularly encouraged to participate!