MSCS Mess

Department of Mathematics, Statistics and Computer Science
St. Olaf College
Northfield, MN 55057

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This Week's Colloquium

Title:	A Simple Model of Mutualism
Speakers:	Professor Wendy Graves, Lake Superior College in Duluth
Time:	1:30 pm Tuesday, April 24 (Treats at 1:15)
Place:	SC 182

Abstract: Mutualism is an interaction between species that is beneficial for both species. In this colloquium, we will explore the dynamics of mutualism by examining Lotka-Volterra mutualist interactions and exploring a new model for mutualist dynamics: the Limited Growth Rate model. The presenter will also bring examples of mutualists.

About the presenter: Wendy Graves started out academically by earning a Bachelor's degree in Physics at the University of California, Davis, and later earned her Ph. D. in the department of Physiology and Biophysics at State University of New York at Stony Brook. After teaching Physics and Mathematics in the Minnesota State Colleges and Universities system for six years, she followed her dreams and returned to school to earn a Master's degree in Mathematics from the Department of Applied and Computational Math at University of Minnesota, Duluth. She continues to teach and share her love of mathematics and science with her students at Lake Superior College in Duluth.

Applause...

Great job to all Math Recital participants. Talented students contributed a variety of acts, including vocal performances, instrumental pieces, numbers hokey pokey, and corny skits. The show also featured Professor Bruce Hanson on guitar, Professor Olaf Hall-Holt on the unicycle, Professor Cliff Corzatt on a cimbalom (a unique Hungarian instrument) and Professor Peter Bolstad's song lyrics.

Special Guest...

On Tuesday, April 24th Joan Hutchinson, a *world-famous* graph theorist, will be giving a talk on graph theory and art gallery theorems. This talk will take place in SC 188 during the 9:35 class period. All students and faculty are welcome, but space is

limited. Please email Prof. Garrett if you are interested in attending.

Jokes for Geeks

In case you missed the math recital, here are some gems from Professor Tina Garrett, making her debut as St. Olaf's M.C.

Question: How many grad school students does it take to replace a light bulb?
Answer: Only one, but it takes nine years

Question: How many department chairs does it take to replace a light bulb?
Answer: None, what was wrong with the old one?

Question: How many math professors does it take to replace a light bulb?
Answer: Four, one to do it and three to co-author the paper

A mathematician, chemist, and physicist walk into a bar…oops...can't have this one...this is St. Olaf.

Problem of the Week (POW)

A Weighty, Colorful Problem. You have six weights, two red, two yellow, and two blue. One of the weights of each color weighs A ounces, and one of them weighs B ounces, for some unknown real numbers A and B (so there are three weights that weigh A and three weights that weigh B). You have an equal-arm balance. Find which weight is which in only two weighings.

Submit all solutions before the appearance of the next problem to Josh Laison in person, by e-mail (laison@stolaf.edu), or by message in a bottle. The first correct solution gets a prize; all correct solutions get fame and glory. Preference for the prize goes to problem-solvers who haven't won one yet.

Solution to A Short Interval. Congratulations again to Thomas McConville and Reid Price, who both solved the problem this week. Thomas won a dinosaur squirt toy.

Suppose there are k intervals in S, their lengths are s_1 through s_k, and their total length is s. Let I(i,j) be the interval of all possible distances between points in s_i and points in s_j. I(i,j) has length s_i+s_j. Let I(i) be the interval of all possible distances between points in s_i. I(i) has length s_i. Now the sum of all possible distances in S is the sum of the lengths of the intervals I(i,j) plus the sum of the lengths of the intervals I(i). In the first sum, each s_i appears (k-1) times, so the first sum is (k-1)s. The second sum is s, so the total is ks. Since ks is at least 1, s is at least 1/k.

If you would like to submit an article or math event to be published in the Math Mess, e-mail meyerm@stolaf.edu or dolank@stolaf.edu.

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