Upcoming Math & C.S. Colloquium

We all know **Professor Thall** likes big numbers. We mean BIG numbers, like numbers with 10 million digits! He likes to square 'em, he likes to add 'em, he likes to divide 'em by 2^34,112,609 – 1 and find the remainder! *Why*, we already know; it's his lucrative Mersenne prime testing business. But *how* he does it has some interesting angles for both MTH and CSC types. Why does he use *balanced* integers, like base-10 numbers with digits [-5, -4, -3, -2, -1, 0, 1, 2, 3, 4] instead of [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]? And what's all this about *irrational* bases; how can you have a number with an irrational base and irrational digits? Come help us deal with this irrational guy and bring some reason to it all.

"Why does Professor T run amok?"

Presenter: Dr. Andrew Thall
Date: **Monday, February 14ᵗʰ**
Time: 4:00
Place: SAC 216

Refreshments at 3:50.

Hey Calculus Students!

$$\int \frac{d(rythm)}{rythm} = \log(rythm)$$

Two R.E.U.s

There are two summer R.E.U.'s—with deadlines fast approaching—that I'd like to promote. One is at the University of Nebraska and the other is at Miami University in Ohio. Both programs would like to attract students who are interested in pursuing advanced degrees in the mathematical sciences, and both are especially interested in recruiting underrepresented minorities and women. Here are a few details about each program:

University of Nebraska

Date for REU: June 6 to July 29, and June 6 to August 10
Stipend: Not specified on website
Application deadline: **March 1ˢᵗ**

Miami University

Date for REU: June 6 to July 22
Stipend: $3200 + room & board
Application deadline: **February 15ᵗʰ**

Important Dates for Seniors

Seniors: please mark the following dates on your calendars.

**February 5:** MFAT 8:30 a.m.

March 11: Your paper is due.

March 15: Presentations begin! Senior Dinner @ 5:30

Researchers Find Partition Numbers

After finding a fractal pattern underlying mathematics, researchers have uncovered a way to calculate any integer's partition number. A partition number is the number of ways an integer can be separated into other integers. For example, 3 can be expressed in 3 ways: 3, 2+1, and 1+1+1. Therefore, its partition number is 3. The partition number of 10 is 42. Partition numbers quickly increase with each integer, which is why this problem has stumped mathematicians ever since the 18th century. However, researchers Amanda Folsom, Zachary Kent, and Ken Ono discovered a pattern to the series of partition numbers. This is an important finding because it proves that partition numbers are not random. I think this will lead to a breakthrough for other problems in number theory. You can find a summary and proof of their discovery at: http://www.aimath.org/news/partition/. S^2

Department of Mathletics T-Shirt

This is your **last chance** to purchase a cool t-shirt. I'll be placing an order for the t-shirt shown below on **Friday, February 4th**. If you'd like me to order one for you, please let me know before that date. The shirt is gray with navy blue trim around the neck and sleeves. The cost is $10. *Prof. Sipka*
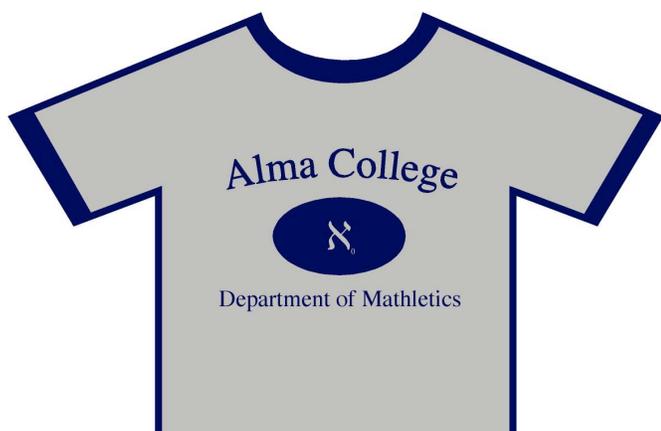
Mathematical Miscellany

A professor is one who can speak on any subject -- for precisely fifty minutes.

Norbert Wiener (1894-1964)

Puzzle of the Bi-week

Three lunch boxes are labeled *HH*, *HC*, and *CC*. One of them contains two ham sandwiches, another one ham sandwich and one cheese sandwich, and the last one two cheese sandwiches. Unfortunately, the labels are **all wrong**: the *HH* box does not contain the two ham sandwiches, etc. You must straighten out the labels; that is, you must correctly identify the contents of each lunch box, but you must do it by opening the **fewest** number of lunch boxes as possible. Explain how you can do this.

A small prize will be awarded to the FIRST student who provides a correct solution. See Prof. Sipka.

If you would like to submit an announcement or a short article, please send it via e-mail to Matt Mansell (11mgmans) or Tim Sipka (sipka).