MSCS ⬡ Mess

This Week's Colloquium

Title:	Happy Birthday, Euler
Speakers:	MSCS Faculty members
Time:	1:30 pm Tuesday, April 16 (Treats at 1:15)
Place:	SC 182

Abstract: This colloquium will be in honor of Euler's 300th birthday, which was yesterday. Various St. Olaf professors will be highlighting a few of the gems that Euler came up with during his long and productive lifetime: 1707-1783. Join us for Euler's birthday party!

Topics include:

? Euler's formula for planar graphs.

? One of the simplest proofs that the harmonic series diverges, *perhaps* due to Euler

? Euler's proof that harmonic divergence implies the infinitude of primes (also proved by another Eu-dude)

? Eulerian circuits

? Euler numbers and the Gregory series for Pi (a mysterious connection)

? Euler's proof that the sum 1+1/4+1/9+...=Pi^2/6

It's here...

What: n-th Annual Math Recital

When: 7:00pm on Wednesday, April 18th

Where: Ytterboe Lounge

All employees and students of the MSCS are invited, as well as anyone who knows an employee or student of the MSCS. It's not too late to enter; email or phone Professor Steve McKelvey for more information.   You wouldn't want to miss these great performances by students and faculty featuring Professor Tina Garrett as Master of Ceremonies.

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.

Joke for Geeks

Math   problems?   Call   1-800-$[(10x)(13i)^2]$-$[\sin(xy)/2.362x]$.

Question: What is polite and works for the phone company?

Answer: A deferential operator...

Problem of the Week (POW)

Passenger Jumble. 100 people line up to board an airplane. The first person has lost his boarding pass, and chooses a random seat. The rest of the people board one by one, attempt to take their assigned seat, and choose a random other seat if it's full. What is the probability that the 100th person gets her assigned seat?

Submit all solutions before the appearance of the next problem to Josh Laison in person, by e-mail (laison@stolaf.edu), or by time capsule. The first correct solution gets a prize; all correct solutions get fame and glory.

Solution to Who's Got the Button? Congratulations to Reid Price and Thomas McConville, who both solved the problem this week. Reid won a "Chinese yo-yo".

There are four switches, and each one can start in either the on or off position, so there are 16 different possible initial switch configurations. We divide them into five categories: I. all on; II. All off; III. two opposite corners are on; IV. two adjacent corners are on; V. An odd number of switches are on. If the switches start out in category I, Alonzo wins without doing anything. So we have four categories left. We use the following abbreviations: A: Alonzo pushes all four buttons; O: Alonzo pushes two opposite buttons; N: Alonzo pushes two adjacent (neighboring) buttons; S: Alonzo pushes a single button. Then:

1. The single move A wins category II, leaving the others in the same categories.
2. The sequence OA wins category III, leaving the others in the same categories.
3. The move N replaces every configuration in category IV with a configuration in category III, and leaves category V the same.
4. The move S replaces every configuration in category V with a configuration in one of the other categories.

So Alonzo wins in every situation with the sequence AOANOASAOANOA.

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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