

Math



Mess

Department of Mathematics
St. Olaf College
Northfield, MN 55057

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This Week's Mathematics Colloquium

Title: ?

Speakers: ()

Time: 4+3i pm

Place: Cⁿ

No Colloquium

After having four colloquia in two weeks, the math department has depleted Bon Appetit's supply of cookies and donuts. No further colloquia will be given until Bon Appetit has a chance to restock its bakery. If the absence of a colloquium gives you a feeling of mathematical emptiness, we suggest you spend Tuesday afternoon with some creative friends and brainstorm designs for the annual math department T-shirt! See the article below for more information.

Math T-shirt Design Contest

Spring is in the air, and so is the scent of newly printed departmental T-shirts. The math department traditionally produces the most creative shirts at St. Olaf, and we need your help to keep the T-shirt tradition alive! Please submit designs to Donna Brakke in the math department office. The design should be in a format which can be displayed in the math department hallways (e.g. a drawing or

computer printout). The deadline is **February 28**.

If you're curious about last year's design, stop by the math department office and ask to see the old shirts. Although your design will be part of a lasting tradition, this year's design contest will differ from past contests with regard to the prizes available. **Everyone** who enters a design will receive some sort of prize, and the winning t-shirt designer will receive **\$50!** The vote for best design will take place during early March.

Konhauser Results

The 11th annual Konhauser Problemfest was held at St. Olaf on Saturday. 17 teams from 5 colleges participated, including 6 teams from St. Olaf. A team from Carleton took first place, and retains possession of the pizza trophy. From St. Olaf, the team of Janette Herbers and Matt Handley took 6th place, and Jerad Parish, Jonathan Von Stroh and Michael Zahniser took 8th. Congratulations to these folks, and thanks to everyone who participated.

Math Recital Approaching

This spring's Math Recital is just around the corner. Here are the details:

WHAT: The N-th Annual Mathematics Recital

WHO: All Friends of the Mathematics

Department

WHERE: Ytterboe Lounge

WHEN: Wed, April 16th from 7 to 9 pm. WHY:

A chance to eat together, play together and laugh together.

The Math Recital is an annual tradition in the mathematics department. The recital is a chance for any friend of the department to share his or her instrumental, vocal, thespian or other talent with the rest of his or her mathematical friends and colleagues. Good food is provided by the faculty. Good taste is provided by the students. Please consider performing as an individual or part of a group. Professor McKelvey (mckelvey@stolaf.edu) is keeping the official play list, so please let him know what you would like to present. The sooner you let him know, the more likely it is there will be a place on the program for you. Even if you choose not to perform, please plan on attending. This low-key and relaxed evening is one of the highlights of the math department calendar.

Math Conferences

St. John's College is holding its annual Pi Mu Epsilon Conference on April 4th and 5th. The featured speaker is Colin Adams of Williams College, but undergraduate students also have opportunities to give research talks. The math department will support any attendees. Contact Matt Richey (richey@stolaf.edu) if you're interested in attending or speaking.

The MAA North Central Conference meeting is April 24-25 at Macalester. Check out <http://condor.stcloudstate.edu/~maancs/spring2003meeting.html> for more information.

The Rose-Hulman Undergraduate Mathematics Conference is March 21-22, with deadline March 6.

Consult <http://www.rose-hulman.edu/class/ma/HTML/Conf/UndergradConf.html>.

Last Week's Problem

For any positive integers n and k , $n > k$, let $d = \gcd(n, k)$ (so d is the greatest common divisor of

n and k). Prove that $\frac{d}{n} \frac{n}{k}$ is an integer.

We received no solutions to this problem. The key is to remember that the gcd of any two positive integers can always be written as a linear combination of those numbers. So replace d in the given expression by $an + bk$; after a little algebra,

you get $a \frac{n}{k} + b \frac{n}{k} \frac{1}{n}$, which is an integer,

because it is the number of ways to do something.

Problem of the Week

This week's problem appeared on the Konhauser Problemfest. Place six distinct positive integers on a cube, one per face. Form at each corner the product of the three numbers on the faces at that corner and add the eight such products together. Show it is possible that this total is 385. There is a unique set of six numbers which works. Are there totals other than 385 for which there would still be a unique solution?

** Please submit all solutions to David Molnar (molnar@stolaf.edu) by noon on Sunday.

If you would like to receive a copy of the Math Mess in your P.O. Box weekly, please e-mail Donna Brakke at brakke@stolaf.edu.

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