Ice Cream Social Today!

Ice cream social for all students interested in mathematics on Friday, September 17, 2010 (today!) near the Penrose tiles in the CMC lobby.

Putnam Registration Time is Here

Although fall is just getting underway, it’s time to register for this year’s William Lowell Putnam Mathematical Competition. As many of you know, the “Putnam” is a challenging exam focusing on mathematical insight and ingenuity; typically several thousand undergraduates across the United States and Canada participate, and the median score is usually less than 10 out of a possible 120. Whether you’ve taken the exam before, or are considering taking it for the first time, you’ll probably enjoy getting experience with past Putnam problems at our weekly problem-solving group, which meets every week on Wednesday, from 4:30 p.m. to 6 p.m. in CMC 328.

This year the Putnam will be held on Saturday, December 4. That’s during our winter break, but we’ll gladly make arrangements for you to take the Putnam at another college or university. If you’d like to sign up, contact Eric Egge in person or via email (eegge). If you’d like more information, see the bulletin board outside Math Skills, where a brochure will soon be posted, or talk to Eric. Don’t delay; although the Putnam is still more than two months away, we have to submit a participant list soon, so your deadline for signing up is Monday, September 27.

Intro to LaTeX

Are you interested in learning how to use LaTeX to write up your math homework? Laura Chihara will hold an introductory LaTeX session to get you started on this document preparation system on Sunday, September 19 from 2-3 p.m. in CMC 201.

Math Conferences Galore!

Want to meet other undergraduate math majors and professional mathematicians? Do you want to hear what’s going on in the larger mathematical community? What interesting mathematics are other people thinking about? A fun way to find out is to attend a math conference. If you have already done research or you’re working on a comps project that involves something new, talk to your advisor about presenting at a math conference! Students who present at a conference can often get a travel stipend from the Math Department or the Dean’s Office; ask about it. As conference opportunities approach, we will post notices in the Gazette.

Annual All Science and Math Poster Session

Mark your calendars and join us for the annual celebration of student scholarship in science and math. The Annual All Science and Math Poster Session is on Friday, October 22, 2010 in the Cowling Gymnasium from 3:45 p.m. to 5:15 p.m.

We welcome all students who have done research, at Carleton or elsewhere, to present and we encourage all to attend. This event has grown to over 60 posters presented and last year over 100 people attended. For questions, please contact Mary Drew.

Free Gazette Subscriptions

To receive an e-link to the Goodsell Gazette each Friday of the school year, send an email to Sue Jandro at sjandro.
We’d like to Know What You Did Last Summer

Did you do some exciting mathematics this summer, either here at Carleton or in a summer program elsewhere? If so, then you’re invited to give a talk on your work at the upcoming Undergraduate Mathematics Symposium!

The Symposium will be on Thursday, September 30, starting at 3:30 p.m. We’ll have two talks per hour, and if there are enough talks then we’ll have a break for pizza along the way. If you’d like to give a 20-25 minute talk, email the title of your talk, a one-paragraph abstract, and any preferences you have for speaking times, to Eric Egge (eegge).

Joint Mathematics Meetings Poster Session

If you did an undergraduate research project, consider submitting an abstract to the Joint Mathematics Meetings (JMM) in New Orleans, LA. The Poster Session will be held on Saturday, January 8, 2011. Some travel support is available. Visit the website: http://www.maa.org/students/undergrad/jmmposterindex.html

PROBLEMS OF THE WEEK

Welcome, or welcome back! For those of you who are new to Carleton and/or to the Goodsell Gazette, here is how this part of the newsletter works: Ordinarily, two problems appear each week. It’s likely that the first problem will be easier, or at least no harder, than the second, but I may not always judge that correctly, and it may also depend on your specific background. Eventually, solutions to these problems will be posted in the CMC. (Right now, you can find all problems posed last term, along with solutions for them, in the hallway outside CMC 218.) In the meantime, you are encouraged, exhorted, entreated, etc. (you get the idea) to submit your own solutions. That can be done by putting them in my mailbox in the CMC, or by sending them through campus mail. (Please don’t send e-mail attachments and such; I may have trouble extracting and/or reading them.) If you solve a problem correctly (before my own solutions are posted, of course), your solution will be acknowledged in this space, and you will also be eligible for a modest prize. In order for your solution to be mentioned in the Gazette at the end of a particular week, it should reach me by Tuesday evening of that week. Incidentally, incorrect solutions whose authors can be identified (and, eventually, also correct solutions) will be returned in private, with supportive comments. Now that you have an idea of the process, here are this week’s problems:

1. Show that any polygon can be tiled by convex pentagons. (A convex pentagon is one for which all angles are less than 180 degrees; “tiled” means that the pentagons “fill up” the polygon, which isn’t necessarily convex, without overlapping and without extending beyond it.)

2. Three numbers are arranged in a circle; at time \( t = 0 \), the numbers are (reading counterclockwise) 0, 1, 2. Thereafter, the numbers are adjusted every unit of time, as follows: If the two neighbors of a number are equal, that number stays the same (for that unit of time). If the left neighbor of a number is less than its right neighbor, that number is reduced by 1; if the left neighbor of a number is greater than its right neighbor, that number is raised by 1. (The first few steps of this process yield \( 0, 1, 2 \) for \( t = 0 \); \( 1, 0, 3 \) for \( t = 1 \); \( 2, -1, 2 \) for \( t = 2 \); \( 3, -1, 1 \) for \( t = 3 \); \( 4, 0, 0 \) for \( t = 4 \); \( 4, 1, -1 \) for \( t = 5 \).) Counting \( t = 0 \), what is the 2010th time that at least one of the three numbers is zero?

- Mark Krusemeyer

Editors: Deanna Haunsperger
C. Jaclyn Stewart

Problems of the Week: Mark Krusemeyer

Subscriptions & Web: Sue Jandro