

Goodσελλ Gazette

Carleton College
Northfield MN 55057

The newsletter for the Carleton mathematics and statistics community

13 November 2009
Vol. 28, No. 9

Beyond the Classroom: Stories of Students Studying Math

Are you considering applying to study mathematics in beautiful, historic Budapest or wondering what a Research Experience for Undergraduates (an REU) really entails? Come listen to the experts on the subject – the students who’ve actually done it! Thursday of Winter Term’s Week 1, 4:00 p.m. in CMC 206, let’s get together to talk about Budapest and REUs. Everyone’s welcome; pizza will be served.

Mathematica Policy Research

Mathematica Policy Research Inc. is a nationally recognized firm that conducts domestic social policy research on health care, welfare, education, disability, labor, and other related topics. Mathematica is seeking Research Assistant/Programmers that will be expected to perform tasks relating to Research, Programming, and Project Management. Job Opportunities are available in Princeton, New Jersey; Washington, D.C.; Ann Arbor, Michigan; Oakland, California; or Cambridge, Massachusetts. Qualifications include a Bachelor’s Degree with courses in economics/social science, mathematics/statistics, or computer science, and academic or work experience performing data analysis using a statistical computer package. Visit www.careers.mathematica-mpr.com/applicants/Central?quickFind=51240 to apply.

Be a MathPath Camp Counselor

Interested in working with middle school age students who are highly gifted in mathematics? Join MathPath to work as a camp counselor

this coming summer from June 27 to July 25 at Macalester College. Counselors are given a stipend of \$2500, meals, and a single dorm room on campus. Reimbursement of reasonable travel expenses is also available. To apply, submit your application at www.mathpath.org before January 31.

Winners of the Math Faculty/Staff Toddler Photo Contest

We congratulate the winners of the Math Faculty/Staff Toddler Photo Contest.

1st place: Becky Patrias and Matt Cordes, with 12 out of 15 correct. They submitted their entry from Budapest!

2nd place: Dan DeRossa

3rd place: 3 way tie! Erica Chesley and Danny Wells; Peggy Pfister; and Allie Cardiel

Thank you to everybody who participated!

Knowles Teaching Fellowship

Interested in one of the most generous and comprehensive teaching fellowships available for individuals committed to becoming professional high school science or mathematics teachers? KSTF Teaching Fellowships provide up to five years of financial and professional support to exceptional individuals as they begin their careers teaching in U.S. high schools. Applicants should have received their bachelor’s degree. Fellowships will be awarded in each of three disciplinary areas: biology, physical science, and mathematics. More information is at www.kstf.org/fellowships/teaching.html. Applications are due Wednesday, January 13, 2010.

Happy Friday the 13th!

Are you superstitious? Worried about what will happen on Fridays that fall on the 13th day of the month? Consult the chart below to know when you should be extra careful...

Day of the week January 1 st falls on	Non-Leap Year Months with Friday the 13th	Leap Year Months with Friday the 13th
Monday	April, July	September, December
Tuesday	September, December	June
Wednesday	June	March, November
Thursday	February, March, November	February, August
Friday	August	May
Saturday	May	October
Sunday	January, October	January, April, July

History of Mathematics

The History of Mathematics Special Interest Group of the MAA is pleased to announce its 7th annual Student Writing Contest in the History of Mathematics! Deadline for submissions is March 31. Information and submission guidelines can be found on the HOM SIGMAA website at www.homsigmaa.org

PROBLEMS OF THE WEEK

1. Let a_1, a_2, \dots, a_n be n distinct real numbers. Define polynomials $p_1(x), p_2(x), \dots, p_n(x)$ by

$$p_k(x) = \prod_{j \neq k} \frac{(x - a_j)}{(a_k - a_j)}.$$

Prove that $\sum_{k=1}^n p_k(x) = 1$ for all real numbers x .

2. The extraterrestrials living on Mars are expecting visitors from the planet Neptune. A banquet is being held in honor of these visitors. It is well known that every Neptunian will refuse to sit next to another Neptunian during a feast. It turns out that m Neptunians are coming and n local Martians are invited (with $n > m$). The organizers will put nametags on each of $m + n$ chairs around a large round table with at least one Martian seated between every pair of Neptunians. Two of the Martians are wondering what the probability is that they will be sitting next to one another. Given that the seating arrangement is chosen at random out of all of those that will satisfy the Neptunians, find the probability that these two Martians will end up next to one another.

Both Henry Luo and Li Shunji submitted correct solutions to the first of last week's problems. Evidently the second problem proved to be a bit trickier since no one completely mastered it, although Bjorn was close enough to earn credit for a solution. The lottery winner this week is Bjorn. He should stop by CMC 217 to collect a prize from the B.B.O.P.

Because this is the last Goodsell Gazette of the term, you all have a little extra time to consider these problems. Solutions will be accepted up until the last day of finals with the "lottery" winner announced in the first issue next term. Also, Mark Krusemeyer will be returning to his post as Problems of the Week editor next term. As a result, this is my last contribution to this column. I've enjoyed looking for mathematical challenges to entertain you and I've enjoyed looking to see what arrives in my mailbox each week.

Gail Nelson

Editors:	Deanna Haunsperger Kristy Spiak
Problems of the Week:	Gail Nelson
Subscriptions & Web:	Sue Jandro