**MAA Meeting Next Weekend**

Next weekend, on Friday, April 15 and Saturday, April 16, Carleton will be hosting the North Central Section Spring Meeting of the Mathematical Association of America. Mathematicians from all over the region will be here to attend the meeting, which will include student and faculty talks on all areas of math.

Students are invited and encouraged to attend the talks and hang out with the mathematicians during all or part of the conference, Friday from 6:45 p.m. to 10:30 p.m. and Saturday from 9:00 a.m. to 3:30 p.m. Registration begins Friday at 6:30 p.m. in the Boliou lobby; the department will cover the cost of registration for all Carleton math majors wishing to attend. Come for any or all of the talks, and see what your peers at other schools are up to!

Some sample student talk titles include “A Simultaneous Random Walk Game,” and “Structure and Statistics of the Self-Power Map.” Some contributed faculty talk titles are “Observations of a Generalized Fibonacci Sequence,” “Factor Subtractor,” and “The Real Story of the Lorenz System.” Also, don’t miss the invited addresses “When Mathematics meets YouTube,” which tells the story of a video explaining mobius transformations in higher dimensions that went viral on YouTube, and “Invariants under Group Actions to Amaze Your Friends,” which relates group theory to card tricks.

A program for the meeting will soon be available at [http://sections.maa.org/northcen/](http://sections.maa.org/northcen/).

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**An Error on the Putnam?**

After last week’s Gazette went to press we discovered that, due to a scoresheet that was mailed to the wrong school, our list of Carls who took the Putnam was incomplete. The complete list is Matt Adams, Ben Anderson, Danny Chen, Xin Chen, Lizbee Collins-Wildman, Frank Firke, Jonathan Hahn, Daoji Huang, Gracie Jaffe, Jie Lin, Dylan Peifer, Tung Phan, Alex Rusciano, and Kan Wang. Kudos to all who took the exam!

**T-Shirt Design Contest**

Got something you want to get off your back, by putting it on your chest? The Math Department is looking for inspirational, irrational and/or transcendental ideas for a 2011 department t-shirt. Submit your designs by e-mail to SDAs Anna Zink (zinka) or Gabe Davis (davisg), or just hang them on the whiteboard, by April 15.

**Joke of the Week**

A biologist, a physicist, and a mathematician are sitting together on a porch when they notice two people enter the apparently empty house across the street. A few minutes later, they see three people emerge from the house.

“Hmm,” thinks the biologist, “the people must have reproduced.”

“Hmm,” thinks the physicist, “there must have been an error in my initial measurement.”

“Hmm,” thinks the mathematician, “if one more person goes inside, the house will be empty!”
I am perhaps a strange model for “what to do with a Math degree,” given that what I did with my Math degree is go off and do something different. But what I did do turns out to be not entirely unrelated. In my senior year, I applied to graduate programs in Math, Physics, and in Linguistics, on the theory that it never hurts to see what the options are. As it turned out, among the options was pursuing a Ph.D. in Linguistics at MIT. I went, I read, I wrote, and eventually graduated, having written a dissertation on the syntax and semantics of question formation, focusing on Japanese and Sinhala (spoken in Sri Lanka). After two years as a postdoc at Johns Hopkins University, I joined the faculty at Boston University, where I have been ever since.

Although I can never know for sure, I have always believed that my Math degree played a big role in putting me where I am today. My days at Carleton predated the existence of the Linguistics major, although I took all the Linguistics courses I could manage. Formal linguistics is primarily concerned with precise characterization of the systems underlying language knowledge. And the way one characterizes things formally is in mathematical language. Coming out of Carleton with a Math degree gave me credentials in abstract formal thinking, which is a big part of the syntactician’s day-to-day activities. I am pretty sure that this played a significant role in getting me into the prestigious program I got into, and it has certainly helped in the actual practice of being a linguist.

Paul Hagstrom (’93) is Associate Professor of Linguistics at Boston University. For his full profile, visit https://apps.carleton.edu/curricular/math/ggnews/.

**PROBLEMS OF THE WEEK**

1. Consider quadrilaterals \(ABDC\) for which the vertices \(A = (a, 0)\) and \(B = (b, 0)\) are on the \(x\)-axis, where \(a\) and \(b\) are integers such that \(0 < a < b < 2011\), and the vertices \(C = (0, c)\) and \(D = (0, d)\) are on the \(y\)-axis, where \(c\) and \(d\) are integers such that \(0 < c < d < 2011\). For how many such quadrilaterals is the area an integer?

2. Consider the following statement: “For any three points in the \(x, y\)-plane such that no two of the points lie on a vertical line, there exists a polynomial \(P(x)\) of degree \(n\) whose graph goes through all three of the given points and has a turning point (that is, a local maximum or minimum) at each of them.” What is the smallest value of \(n\) for which this statement is true, and why?

A nice solution to the first problem posed March 4 arrived from Justin Troyka, who should stop by CMC 217 to collect a “C” block or other B.B.O.P. item. (Because my own solutions to the problems from last term have been posted, as of now I am no longer soliciting solutions to those problems. Last week’s problems are still fair game, though. Speaking of which…) Last week’s second problem was solved, with some impressive use of Mathematica, by an off-campus reader, John Snyder of Oconomowoc, WI. There was a serious, but so far unsuccessful, on-campus attempt on the first problem.

Reminder: Solutions are “due” in my box by noon on Tuesday. However, this is not a real deadline, because there is always the possibility for acknowledgement in a later week’s Gazette…

- Mark Krusemeyer

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