Augarithms

Mathematics Colloquium Fall Lineup

Colloquia are typically held Wednesdays from 3:40 - 4:40 in Science Hall 108. Refreshments are always provided.

Sep. →	13	The Augsburg Mathematics Department presents itself. Please note that this week's colloquium is to be held in Science 123.
Sep.	27	Ken Kaminsky, Augsburg College
Oct.	11	Amelia Taylor, Colorado College
Oct.	25	Matt Haines, Augsburg College
Nov.	8	TBA
Nov.	29	TBA
Dec.	13	TBA

This week's colloquium...

As has become a tradition at Augsburg, we take the first colloquium of the year to introduce ourselves (new and old) to our students (new and old) and say something about how we spent our summer.

This year, joining our regulars, **Tracy Bibelnieks** (2002), **Su Dorée** (1989), **Matt Haines** (2001), and **Ken Kaminsky** (1987) is **Jody Sorensen** who was visiting us last year. She joins the department as an Associate Professor (See the article about Jody on the other side.). Visiting the department on a part-time basis this year are **Elisa Vásquez Rifo**, **Jerry Eddy**, and **Todd Wadsworth**. Please come greet the faculty and see what they've been up to.

Note that the first colloquium will take place at the usual time, but in Science 123. Special refreshments will be served.

The new faculty

Sorensen   *Vasquez Rifo*   *Eddy*   *Wadsworth*

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The bi-weekly newsletter of
the Department of Mathematics
at Augsburg College

Editor-in-chief.............Ken Kaminsky
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Problem of the week...[†]

Augsburg's **Erik Sevre** solved the problem from vol. 19.11 by finding any pair of irrational numbers a and b such that a^b is an integer. He showed that $a = \sqrt{2}$ and $b = \log_2 100$ was such a pair. Here is this week's problem.

The playoffs in Major League Baseball begin soon, culminating in the World Series which selects the champion team. The World Series is a tournament of seven games with the champion being the first team to win four games. How many different ways can the World Series be played?

Submit your solution to the editor at kaminsky@augsburg.edu, slip them under his door at Science Hall 137E, or put it in the puzzles and problems box just outside of Su's office.

[†]adapted with permission from Bradley University's 'potw' page <bradley.bradley.edu/~delgado/>

Puzzle of the week...

In the puzzle from vol. 19.11 you were asked to express $0.\overline{0123456789}$ as the ratio of two integers. **Barb Schewe** of Anoka-Ramsey Community College and **Erik Sevre** of Augsburg found the correct solution: 13,717,421/1,111,111,111. And, here is this week's puzzle:
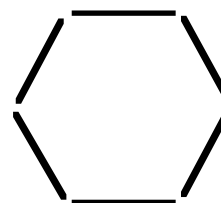
Starting with these six toothpicks arranged in a hexagon, can you form two identical diamonds by moving only two toothpicks and adding just one more?

Submit your solution to the editor at kaminsky@augsburg.edu, slip them under his door at Science Hall 137E, or put it in the puzzles and problems box just outside of Su's office.

Jody Sorensen joins the department

Jody Sorensen

[Adapted from a similar article from vol. 19.2] As you know, Jody Sorensen was a visiting member of the mathematics department last year. This year Jody has joined us as a regular member of the department in the rank of Associate Professor.

Originally from Roseville, Minnesota, Jody attended Kellogg High School, where she played clarinet in the marching band.

On entering St. Olaf College for undergraduate study, Jody was undecided on a major. She considered premedical, physics, and mathematics, finally choosing mathematics. At first she thought there was no way she would pursue graduate study, but after spending a semester in Budapest studying mathematics her choice became clear.

Jody earned a Ph.D. in mathematics at Northwestern University, specializing in Dynamical Systems. Her dissertation was directed by Clark Robinson. While a graduate student, Jody realized that she wanted to teach undergraduates, who often seem invisible at large research institutions.

Jody's teaching career has taken her to Bates College in Maine, Gettysburg College in Pennsylvania, Grand Valley State University in Michigan, and now to Augsburg. Last year Jody worked with students Dan Wolf and Missy Larson on undergraduate projects in dynamical systems.

In her spare time, Jody enjoys working with stained glass, yoga, and biking.

Poincaré's conjecture (1904)*

Advanced by Jules Henri Poincaré (1854-1912) in his investigations of the topological properties of surfaces.

Every simply connected three-dimensional compact manifold is topologically equivalent to a three-dimensional sphere. The technical terms are essential to this conjecture, which is the subject of much work.

Article by John Bowers, School of Mathematics, University of Leeds. Reprinted with permission from *Dictionary of Theories*, by Jennifer Bothamley.

*Read about the solving of the Poincaré conjecture by Russian mathematician Grigory Perelman and others at

a) nytimes.com/2006/08/27/weekinreview/27johnson.html?ex=140fe026a0f76768&ei=5070
b) newyorker.com/fact/content/articles/060828fa_fact2
c) telegraph.co.uk/news/main.jhtml?xml=/news/2006/08/20/nmaths20.xml

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"Calculus: The Musical!" by Marc Gutman & Sadie Bowman of Matheatre premiered at the Minnesota Fringe Festival, August 3-13.

Here's a review by **Vicki Keck**, Augsburg's Copy Center:
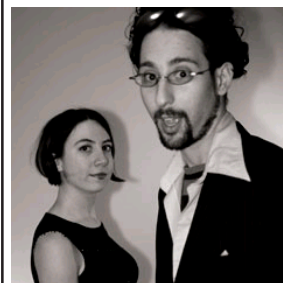
Bowman & Gutman

"Cute Calculus!" :
Okay, I really don't like or understand calculus - but this show really does put it in a whole new light! Marc and Sadie are just so cute & fun it's impossible not to like this show. The Videos also really add to the entertainment factor. Marc has a nice vocal ability and the tunes and lyrics were so incredibly creative. The venue is not the best and it's often difficult to see, and also pretty hot in the packed room! Still I am so glad I saw this show - these two will go far!!

The show sold out most nights at the auditorium of Watershed High School, partly because so many of Gutman's students were in the audience, and it was not a large space. The space itself was the worst thing about the show – the room was uncomfortably warm and the sightlines were such that I had to stand to see what was going on at the front of the room. Still, the show had such irrepressible energy that I couldn't let that get me down.

Cartoon Corner
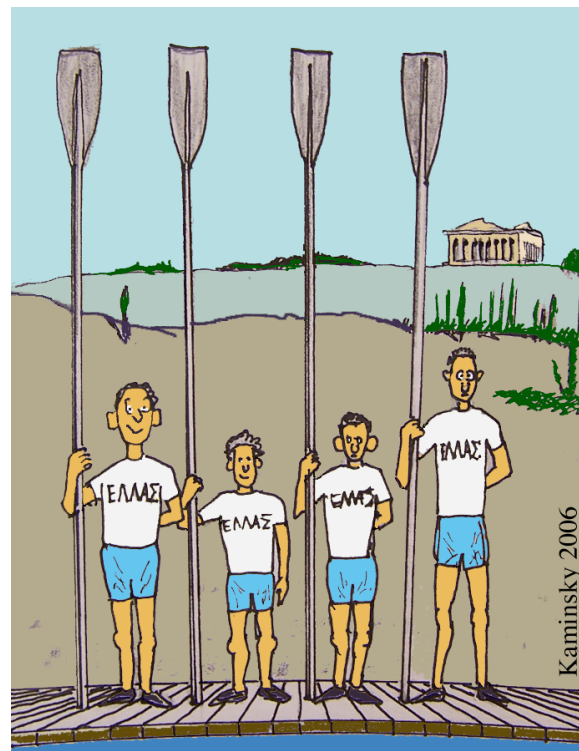
The Four Oarsmen of the Acropolis