L'Augarithms

Mathematics Colloquium Fall Lineup

Colloquia are typically held Wednesdays 3:40—4:40 in Oren 113. Immensely appealing refreshments are served.

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Sept.	7	The Annual Department Meet & Greet
	21	Robert Miner, Ph.D.
Oct.	4	Katy Micek, Augsburg College
	19	Mike Weimerskirch, Augsburg College
Nov. →	2[1]	Austin Wagner, Megan Sutherland
	16	Sarah McKagan, McKagan Enterprises, Seattle
Dec.	7	Steve Kennedy and Deanna Haunsperger

[1]This week's Colloquium

Title: Adventures in SCI 108
Presenters: Megan Sutherland and Austin Wagner

A bifurcation diagram tells us about the iterative behavior of a family of functions. After an introduction to the world of dynamical systems, Megan will show us some fascinating and quirky examples she discovered, and will explain why the bifurcation diagrams look the way they do.   Then Austin will tell us about how the bifurcation diagrams for a function and its inverse are related. If we behave he might even prove a theorem for us!

Refreshment mode = On
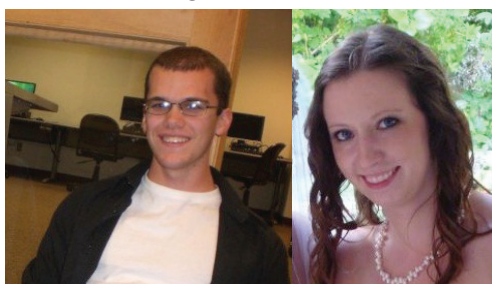
Austin Wagner   *Megan Sutherland*

Problem of the week...

Joe Dobrow solved the POTW from vol 25.03. He found that the grandchildren were 3, 3 and 8 years old, and that the house number was 14.
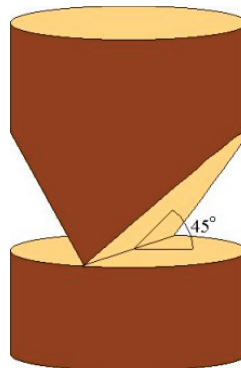
A word about *palindromials*. Several young readers submitted correct examples of palindromials (vol 25.02), but we were after the general solution. Please keep those solutions coming in.

Here now the new POTW:

A lumberjack fells a tree 2 feet in diameter by cutting halfway through on both sides. The lower edge of each cut is horizontal while the upper edge makes an angle of 45 degrees to the horizontal. See the figure on the left. How much wood is cut out?

❖ Reprinted with permission from Bradley U's old 'POTW' page <http://hilltop.bradley.edu/%7Edelgado/potw/potw.html>

Puzzle of the week...

Charlie Green, solved the PZOTW from vol 25.02. He found that there were 63 matches.
Now, for a new PZOTW:

According to the New Oxford American Dictionary, only one set of letters below can be arranged into a five-letter English word. Which is it?

BYRDI   TONET   HUTME   LEBIT   BEHAD
NRCOL   PUITN   TINOL   RUGNE

❖Submit POTW & POZTW solutions to kaminsky@augsburg.edu, or under Ken's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

Attention Math Majors & Minors

Registration for Spring 2012 is coming soon! If you're a math major, you should have declared that major and should have an advisor in the department. You'll be hearing from your advisor soon about scheduling an advising appointment. If you're a math minor and would like advising, talk to your instructor or to Jody Sorensen, the department chair.

There are some exciting upper level classes scheduled for the spring semester. Su will be teaching MAT 304 Graph Theory, a theoretical structures course focused on combinatorial graphs. Prereqs include MAT 271 Discrete. Jody is teaching MAT 363 Dynamical Systems, an elective that focuses on iterated functions and includes discussions of chaos and fractals. Prereqs include either MAT 246 or 271. And finally Tracy will teach MAT 395 Mathematical Economics, an applied projects course that is a requirement for the new Mathematical Economics major, but is also a good elective for mathematics majors. Prereqs include two MAT courses numbered 246 to 299.

You like problems? We've got problems

If you do like solving mathematical problems, join a team for the Mathematical Association of America - North Central Section Fifteenth Annual Team Math Contest on Saturday, Nov. 12.

Augsburg students have fielded 25 teams since 1999. Be part of the tradition to represent Augsburg in this battle of math wits and challenge the likes of Carleton, Bethel, Macalester, Mankato, NDSU, St. Olaf, St. Thomas, Winona St, SDSU, and many, many more! Will Augsburg prevail???

It could be up to you! Find out more and join a team! Contact Matt Haines (haines@augsburg.edu), SCI 137D).

Tidbits of the Week (TOTW)

Last week's Tidbits:

a) Roman numerals are composed of the letters I, V, X, L, C, D, and M. What is the longest number between 1 and 2000 as expressed in Roman numerals. Ans: MDCCCLXXX VIII (1888) has 13 characters, and is the only 13 character Roman number between 1 and 2000

b) You must cut two players from the Devils, your football squad. Being fair, you will do this at random. The number of players on the Devils is the same as the atomic number of rubidium. In how many ways can you choose two Devils players to cut? Ans: Atomic number of rubidium = 37, so there are $_{37}C_2 = 666$ ways.

This week's Tidbit:

The biggest bug in the world is the Goliath Beetle which can weigh up to 3.5 ounces and be 4.5 inches long.

Attention math majors (especially graduating seniors)!

There is a new actuarial science program at the University of Wisconsin-Madison that may be of interest to graduating seniors in mathematics. The Capstone Certificate in Actuarial Science is a tailored series of courses that strategically prepares students for an actuarial career. The Capstone Certificate has a relatively short time to completion (9 months) and courses directly prepare students to pass the actuarial credentialing exams. The ideal candidate for the program has little to no actuarial knowledge, but a strong mathematical background. This program could be useful for some Augsburg students graduating in May who would like to supplement their math degree with applied training in actuarial science.

The Actuarial Science program in the Wisconsin School of Business is one of a select few programs in North America to be designated as a Center of Actuarial Excellence by the Society of Actuaries. Their actuarial graduates enjoy both the highest starting salary and also, highest placement rates of any major in the business school. For more information see the flyer with information about the program on Ken's door, or ask Ken

Contact information for anyone interested in the program is on the flyer.

Berries on the Ground*

The 3D image at right shows "a microscopic image taken of soil featuring round, blueberry-rock formations on the crater floor at Meridiani Planum, **Mars**.

To see the images in 3D, view from about twelve inches, let your eyes focus at infinity. There will be three images. Concentrate on the image in the middle.

*http://astro.uchicago.edu/cosmus/projects/marsstereo/