

Augarithms



Volume 16, Number 6

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December 4, 2002

Colloquium Series Dates for 2002-2003

Colloquia are held on Wednesdays from 3:40 to 4:40 p.m. in Science 108. Here is the tentative schedule for 2002-2003:

Wed. Dec.	4	Loren Larson, Carleton College
Wed. Jan.	29	Steve Morics, University of Redlands
Wed. Feb.	12	David Molnar, St. Olaf College
Wed. Feb.	26	Tracy Bibelnicks, Augsburg College
Wed. Mar.	12	Laura Chihara, Carleton College
Wed. Mar.	26	Nick Coult, Matt Haines, & Ken Kaminsky, Augsburg College
Wed. Apr.	9	Augsburg Students
Wed. Apr.	16	Augsburg Students

Loren Larson's talk



Wooden Block Puzzles

Summary: I will survey the variety of wooden block puzzles by drawing from my hand-crafted collection, and illustrate how they can function as

mathematical recreations, as gateways to mathematical thinking, and as the source for new mathematics.

Credentials: Loren Larson taught mathematics at St. Olaf College for 30 years and has filled in since his retirement at both St. Olaf and Carleton. He is Associate Director of the William Lowell Putnam Mathematical Competition, and the author, with Paul Vaderlind (Sweden) and Richard Guy (Canada) of *The Inquisitive Problem Solver* (see picture), published summer 2002 by the MAA.

Augarithms is available on-line at augsborg.edu/math/augarithms/. Click on the date you want to see.

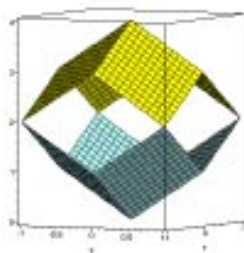
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Hey everybody. It's Party Time

That's right. It's time to pencil the Math Department's Christmas party into your calendar. This year we break a bit from tradition and hold the party on the Wednesday of the last week of the term. That's Wednesday, December 11, beginning at around 3:40 p.m. As usual, the party will take place in the Math Department Suite, Science Hall 137. See you there.

Pretty graph of the week...

Below is a 3D graph. Can you come up with the equations that yielded it? Send your solution to the editor at kaminsky@augsborg.edu.



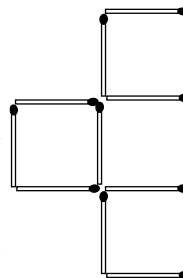
Puzzle & Problem of the week

THE PUZZLE:

Last issue's puzzle, which asked you to rearrange some matches, was solved by **Pary Pezechkian-Weinberg** (French Department) and **James Reagan** (High School Math teacher).

Here is this week's puzzle:

Move exactly three of the twelve toothpicks at right and make five squares!



THE PROBLEM:

Last issue's problem has been solved by **Stew Famosh**. He correctly calculated the average position of the first ace to be 10.6, by calculating $\mu = \sum x f(x)$ over the interval $1 \leq x \leq 49$, where $f(x) = C(x-1, 48) \cdot C(4, 1) / C(52, x)$. The problem can be done intuitively, as follows: The 4 aces divide the deck into 5 piles of $48/5 = 9.6$ cards, on average. Thus, the expected position of the first ace is $1 + 9.6 = 10.6$.

Here is this week's problem:

Niko and Pulver are supposed to meet between noon and 1 p.m. for lunch. Unfortunately, they each arrive at a random time between noon and 1 p.m. and wait only 5 minutes, and then leave. On what fraction of days do Niko and Pulver actually have lunch together?

Send solutions to the editor at kaminsky@augsborg.edu, or drop them in the P & P box in the math suite.

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2211 Riverside Avenue
Minneapolis, MN 55454

Editor.....Ken Kaminsky
e-mail address.....kaminsky@augsborg.edu

Results of The Sixth Annual NCS/MAA Team Competition

Two teams of Augsburg students courageously entered battle in the 6th Annual NCS/MAA Team Competition on Saturday, November 16, 2002. The teams performed well on the ten questions testing their mathematical ingenuity and knowledge. The two Augsburg teams consisted of mathematics students Alexa Halford, Sarah Sletten, Hung Nguyen, Tom Staton, and Dave Wallace.

Both teams performed quite respectably: one team finishing in 17th place out of 70 participating teams. The seventy teams from twenty-three colleges and universities from North Dakota, South Dakota, Minnesota, Manitoba, Saskatchewan, and Ontario participated in the yearly contest that is organized by the North Central Section of the Mathematical Association of America. Team members were not allowed books, notes, calculators or computers while taking the exam. Previous exams can be found at <http://condor.stcloudstate.edu/~maancs/index.html>.

The questions on the test vary in difficulty, but they require lots of mathematical knowledge and clever ways of approaching the problem. Answering any of the questions correctly demonstrates a strong background in mathematics. Amazingly, a team from Carleton College (the alma mater of our own Nick Coult) had a perfect score.

Seasons Greetings from some of the voices of Augsburg



Vrolijk Kerstfeest **Feliz Navidad**
Gott Nytt År **Buon Natale**
Mutlu Yillar *Bonne Année*
HAPPY NEW YEAR **Merry Christmas**
Joyeux Noël
חג שמח **BAGA AYYAANA WAGGAA GEESSAN!!**
Arabaina tratin'ny
NYOB ZOO XYOO TSHIAB *Próspero Año Nuevo*
Yeni Yiliniz Kutlu Olsun
Buon Capodanno **Taom-baovao**
Fröliche Weinachten
Haaska Joulua