Augarithms

AUGSBURG COLLEGE

vol. 20.10 Visit us on the web at Augsburg.edu/math/ April 18, 2007

Mathematics Colloquium Spring Lineup

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

Jan.	24	Aaron Luttman, Bethany Lutheran College
Mar.	7	William Cooper, University of Minnesota
Mar.	28	Adam Roesch, ('00), Ing Group
Apr.	4	Corey Nathe, Lava K. C., Augsburg College
Apr. →	18	Daniel Kaplan, Macalester College[1]

[1]This week's speaker...Daniel Kaplan

Daniel Kaplan

Practically Effective Statistics

If you learn statistics from a textbook, you may conclude that to be effective a statistical analysis has to be correct. But in real situations with real clients it's a little bit different: It's not enough to be right, you also have to be believed. The people who need to be convinced often know little about statistics and so you can't convince them by proof or by pointing to prestigious journals or texts. In the talk, I'll describe some of my experiences in statistical consulting relating to affirmative action enforcement, college admissions, and financial aid. I've had both successes and failures and I'll try to share what works and why.

Daniel Kaplan is the DeWitt Wallace Professor of Mathematics and Computer Science at Macalester College.

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

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Problem of the week...[2]

For the 'girls' ages' problem of vol. 20.9, we received answers/solutions from **Michael Janas**, **Mike Oien**, **Eric Dietz**, **Amanda Peterson**, **Carol Knicker**, **Erik Bentely**, and an anonymous solver. They found the ages to be 3, 3, and 8. And here is the last problem of the semester:

Is it true that the product of any n consecutive positive integers is evenly divisible by $n!$? (Please explain your answer.)

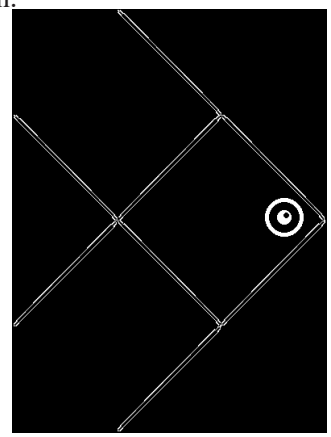
Note: $n!$, read "n factorial", is the product of the first n consecutive positive integers; for example, 3! = 6, the product of 1,2,3, and 5! = 120.

[2]Reprinted with permission from Bradley U's 'potw' page <bradley.bradley.edu/~delgado/>

Puzzle of the week...

Solvers of the 'Start to Finish' puzzle of volume 20.9 were **Binh Nguyen**, **Eric Dietz**, **Antonio Spargo**, **Eric Dietz**, **Michael Janas** and an anonymous solver. Here is the last puzzle of the semester:

Move only three of the toothpicks below (and the eye) to make the fish swim in the opposite direction.



Submit solutions to kaminsky@augsburg.edu, or under Kaminsky's door at SCI137E, or in the puzzles and problems box just outside of Su's office.

Fields Medalist Paul Cohen Dies at 72

Paul J. Cohen

Paul Joseph Cohen, 72, emeritus professor of mathematics at Stanford, who won fame for work on set theory and was a 1966 winner of the Fields Medal, was one of the most brilliant mathematicians of the 20th century, died March 23 at Stanford Hospital of a rare lung disease. Kurt Gödel called Cohen's set theory work as the greatest advance in the foundations of set theory since its axiomatization. Peter Sarnak of Princeton University, who received his doctorate from Stanford in 1980 under Cohen's direction, said of Cohen, "Like many great mathematicians, his mathematical interests and contributions were very broad, ranging from mathematical analysis and differential equations to mathematical logic and number theory."

Cohen is perhaps best known for his solution of the first of the 23 problems that the German mathematician David Hilbert posed at the International Mathematical Union in 1900. By the 1950s, after the work of Gödel, this problem, known as the "Continuum Hypothesis," had become the central one in the set theory.

In the late 1870s, German mathematician Georg Cantor hypothesized that any infinite subset of the set of all real numbers can be put into one-to-one correspondence either with the set of integers or with the set of all real numbers. All attempts to prove or disprove this conjecture failed until 1938, when Gödel showed it was impossible to disprove the Continuum Hypothesis.

Despite having never worked in set theory, Cohen proved that both the Continuum Hypothesis and the Axiom of Choice—two basic ideas in mathematics—were undecidable using the axioms of set theory. This result, which meant that conventional mathematics could neither prove nor disprove concrete and well-known mathematical assertions, is said to have unsettled philosophers, logicians, and mathematicians concerned with the concept of truth.

Source: *Stanford News Service*.