

The Almagest

The bi-weekly newsletter of the Department of Mathematics and Computer Science. Your trusted source for news.

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November 25, 2009

Alma College
Alma, MI 48801

Monday's Math Colloquium

Please join us on **Monday, November 30th** for the last colloquium of the fall term. Alma College alumna **Cheril Lin D. Abeel** will be speaking on the path her career has taken since leaving Alma. Ms. Abeel is a native of Gaylord, Michigan who graduated from Alma College in 1999 and then earned an MS in Industrial Math from Michigan State University in 2001. She was employed by the Southeast Michigan Council of Governments (www.semcong.org) for three years, and has been an analytical consultant for Urban Science (www.urbanscience.com) for the last five years. She currently lives in Chantilly, Virginia, where she does consulting work for Volkswagen Group of America. She will talk about what she wished she had known while she was in school, what she has learned since then, and why the television show "Numb3rs" may make your life as a working mathematician more difficult. She will also demonstrate how she uses vector dot products almost every day.

"Life And Math After Alma"

Presenter: Cheril Lin D. Abeel
Date: **Monday, November 30th**
Time: 4:00
Place: SAC 216

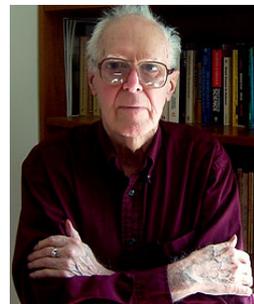
Refreshments at 3:50.

Ending on a Perfect Number

A number is *perfect* if it is the sum of its proper divisors, and 6 ($6 = 1 + 2 + 3$) is the first perfect number. So, it seems only proper that we should publish exactly 6 issues each term. Look for the next issue in January.

Martin Gardner Turns 95

Martin Gardner, a prolific poser of problems and puzzles, celebrated his 95th birthday on October 20th with the publication of his second



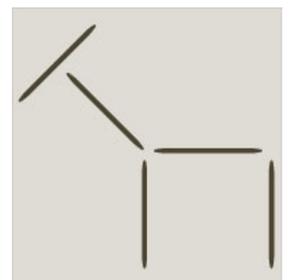
book of essays and mathematical puzzles. That's his second book *just this year*. He has actually published over 70 books of problems and puzzles during the past five decades, making him the world's best-known recreational mathematician. In

addition to his books, Gardner wrote a monthly "Mathematical Games" column for *Scientific American* from 1956 to 1981. Interestingly, Gardner began writing his column at the age of 42 and had never taken a math course beyond high school. "I don't think I ever wrote a column that required calculus," he says. "The big secret of my success as a columnist was that I didn't know much about math. I had to struggle to get everything clear before I wrote a column, so that meant I could write it in a way that people could understand."

We have a number of Martin Gardner's books in our library. So, if you enjoy mathematical puzzles and problems, please check out some of his books.

A Martin Gardner Puzzle

Five toothpicks form the giraffe shown to the right. Change the position of just one toothpick and leave the giraffe in exactly the same form as before. The reformed animal may alter its orientation or be mirror reversed but must have its pattern unchanged.



Career Focus: Financial Mathematician

Financial mathematicians use mathematical tools to model and forecast financial markets and form financial products and strategies. Most financial mathematicians help corporations and financial institutions develop and use financial instruments to structure transactions, increase earnings, and generate capital. They design strategies to produce desired flow of income, increase return on investments, and analyze risks for these institutions. Financial mathematicians often use much of their college coursework on the job, especially their work in probability, statistics, differential equations, and linear algebra. The average starting salary for a person with a bachelor's degree in mathematics is around \$45,000. After a few years of experience the expected salary ranges between \$60,000 to \$100,000 a year. For a list of master's degree programs visit www.iafe.org (click Academic Programs under the Student Resources tab), and for more general information visit <http://www.collegegrad.com/careers/proft46.shtml>.

New at the Alma College Library

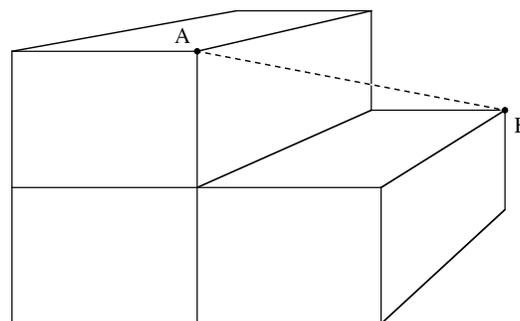
Lewis Carroll in Numberland by Robin Wilson

Just when we thought we knew everything about Lewis Carroll, here comes a highly original biography that will appeal to Alice fans everywhere. Fascinated by the inner life of Charles Lutwidge Dodson, Robin Wilson, a Carroll scholar and a noted mathematics professor, has produced this revelatory book—filled with more than one hundred striking and often playful illustrations—that examines the many inspirations and sources for Carroll's fantastical writings, mathematical and otherwise. As Wilson demonstrates, Carroll—who published serious, if occasionally eccentric, works in the fields of geometry, logic, and algebra—made significant contributions to subjects as varied as voting patterns and the design of tennis tournaments, in the process creating imaginative recreational puzzles based on mathematical ideas. *(from norton.com)*

Answer to Last Puzzle

You are given three identical bricks and a sufficiently long ruler. Can you measure the length of the body diagonal of one brick without using any other materials or any formulas such as the Pythagorean Theorem?

Here's a solution. Stack the bricks in the following way and measure the length of AB .



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|--------------------|--------------|
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If you would like to submit an announcement or a short article, please send it via e-mail to Matt Mansell (11mgmans) or Tim Sipka (sipka).