Math Mess

This Week's Mathematics Colloquium

Title: Fluency in the Language of Mathematics --
A language which can, and should, be taught
Speaker: Warren Esty
Time: Tuesday, October 15th, 1:30 pm
Place: SC 182

This Week's Colloquium

Language facilitates thought. That is the guiding principle behind "The Language of Mathematics", a course designed to promote mathematical thinking. As Professor Esty will explain, this course has been successful with a wide spectrum of students from math-anxious to math majors. Some schools use it as a math core requirement as well as requiring it for future math teachers!

The course is designed to analyze **how** mathematics says **what** is says, so that students
can learn to read with comprehension, to express mathematical thoughts clearly, to reason logically, and to recognize and employ common patterns of mathematical thought. Professor Esty will show us how mathematical skills and thoughts are related to fluency in the symbolic language of mathematics – a "foreign" language which can be intentionally
taught (as opposed to the usual approach which is to immerse students in symbols and let them sink or swim). Examples range from basic algebra and word problems to set theory and proofs at the advanced-calculus level.

Professor Warren Esty is a Full Professor of Mathematics at Montana State University, Bozeman, MT. His research interests are probability theory, stochastic processes, modeling of biological and numismatic processes, and mathematics education. He has written two textbooks, *The Language of Mathematics* and *Precalculus*.

Financial Double-Header

This week St. Olaf hosts a double-header of financial service companies. On Tuesday, October 15th, **Federated Insurance** (a fortune 1000 company) will be holding a job fair to discuss a wide variety of potential careers in insurance. The event will be held at 6pm in Buntrock Commons 142.

On Wednesday, October 16th, **Thrivent Financial for Lutherans** (formerly Lutheran Brotherhood) is holding an open house in Buntrock 144 from 1pm to 5pm.   There you can obtain information about summer internships involving financial sales, actuarial analysis, and accounting, among others.

To Be or Not to Be

Existential crises always seem to pop up around the holiday season. So too does registraion and the dilemma of choosing courses for next semester. Which math courses should I take? What about becoming a math major? What is it good for, anyway?

If you find yourself grappling with questions such as these, the math department can help. Mark your calendar for Tuesday, November 5th, the date of "To be or Not to be". Starting at 5pm, Math professors will be on hand to discuss the nature of the math major and what kinds of things people do with it once they graduate. As always, plenty of food will be available. Stay tuned here for more details.

Mathematics and the Devil

St. Augustine (354-430) used the Latin word mathematicus in Book 2 of <u>De Genesi ad litteram</u>: *"Quapropter bono christiano, sive mathematici, sive quilibet impie divinantium, maxime dicentes verak, cavendi sunt, ne consortio daemoniorum irretiant."* English translation: "The good Christian should beware of mathematicians, and all those who make empty prophecies. The danger already exists that the mathematicians have made a covenant with the devil to darken the spirit and to confine man in the bonds of Hell." However, mathematicus is more properly translated "astrologer." [posted by Barry Cipra]

Last Week's Problem

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?

Casey Rutherford ('04) offered a solution: Stack the bricks as shown below, then measure from the top right corner of the closest face of brick 1 (which doesn't have another brick on it) to the top left corner of the closest face of brick 3. The arrow is the distance you are measuring.
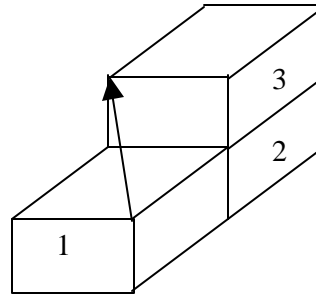
Problem of the Week

Everybody loves a nice grapefruit. Which is why you want to hide that grapefruit that you have sitting atop your dresser from your roommate. You are going to achieve this by making a paper cone which fits over the grapefruit and rests on the dresser, and telling your roommate it's your new hat. Assume that the grapefruit is a sphere with radius 1 (one grapefruit-radius). What is the volume of the smallest possible grapefruit-obscuring cone?

** Please submit all solutions to David Molnar (molnar@stolaf.edu) by noon on Sunday.

If you would like to receive a copy of the Math Mess in your P.O. Box weekly, please e-mail Donna Brakke at <u>brakke@stolaf.edu.</u>