

Math Mess

Department of Mathematics
St. Olaf College
Northfield, MN 55057

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This Week's Mathematics Colloquium

Title: A Slice of Pi

Speaker: Luke Anderson

Time: Thursday, March 14th, 2 pm

Place: SC 182

This Week's Colloquium-Pi Day!

Luke Anderson is a senior math, economics, and philosophy major from Littleton, Colorado. He also has concentrations in Linguistics and Finance. Luke finished his math major last year, and its absence has made him "hungry" to give his third colloquium in four years on his favorite topic. π has been an interest of Luke's since about tenth grade. In addition to math, Luke also loves words and music. He was a professional pianist in high school, and has been in choir and theater at St. Olaf. Luke has also written a comedy musical that will be performed on campus later this spring. At this time next year, he hopes to be working in an investments firm somewhere in the country.

"Probably no symbol in mathematics has evoked as much mystery, romanticism, misconception, and human interest as the number pi."

-William L. Schaaf, Nature and History of Pi

This talk should be interesting to anyone who wants to hear some good storytelling. Pi is a number which is surrounded by a timeless intrigue—we've been chipping away at its mystery for about four thousand years now. Luke will use the chronological history of π as an outline for journeying through stories of π 's approximations, computations, and natural elusiveness. He will discuss where π is found in nature, culture, and elsewhere in mathematics. Aside from the number's history, Luke will discuss memorization, π fan clubs, and other quirky modern fixations surrounding the number. Anyone curious about the mysteries of mathematics and nature will enjoy this talk.

Pi Day!!!!

Today is Pi Day (3/14), and in addition to the "Slice of Pi" Colloquium, the MAA will show films in Viking Theater starting at 8 pm. Movies will include "Pi" and possibly the "History of Pi" and of

course, there will be a delicious treat (I think you can guess what it'll be ☺).

Career Column

Career of the Week: Mathematics Writer

Do you like to write? Would you enjoy talking to mathematicians about their discoveries? Then consider a career as a mathematics writer. Some math writers work as freelancers; others are employed by publications such as Science. All use their writing skills and knowledge of mathematics to explain mathematical ideas to people who are not experts in the field.

Barry Cipra, who describes himself as a mathematician and writer based in Northfield, Minnesota, sent the following description of his job:

The pay is lousy, but you can work at home - in your pajamas, if you like. And the hours are flexible, if you don't mind working all the time. (On the other hand, you can spend an afternoon reading magazines and call it "professional development.") There's no limit to the opportunities, so don't bother applying L'Hopital's rule. The best preparation is to marry well: Find a spouse who's willing to support you.

For some samples of Cipra's work, see the article entitled "Why Double Bubbles Form the Way They Do" (Science, March 17, 2000, p. 1910, available in the St. Olaf Science Library) or the SIAM News website. Cipra wrote four volumes on What's Happening in the Mathematical Sciences for the American Mathematical Society. Some of these articles appear on the AMS website (www.ams.org/new-in-math/happening.html).

[Note: For more information on opportunities at the National Security Agency mentioned in last

week's column, check the material posted on the bulletin board by OMH 201.]

Last Week's Solution

Last week's problem: A *Sidon sequence* is a sequence of positive integers where all of the sums $a+b$, for any a and b in the sequence, including the case $a=b$, are different. Find the longest Sidon sequence of numbers < 64 .

Solution: Adam McDougall found, on the internet, the beginning of the Mian-Chowla sequence: 1, 2, 4, 8, 13, 21, 45, 66, ... which is an infinite sequence, any subsequence of which is a Sidon sequence. So, {1, 2, 4, 8, 13, 21, 45} is a Sidon sequence of numbers less than or equal to 63. The construction of the Mian-Chowla sequence, however, does not ensure that this is the *longest* such sequence. Is it?

You can find out more about this by going to the Online Encyclopedia of Integer Sequences at <http://www.research.att.com/~njas/sequences/> and searching for 'sidon'.

Problem of the Week

Thanks to Archimedes, we know the area of a circle of radius 1 is π . This he determined by looking at regular polygons both inscribed in and circumscribed about a circle of radius 1. Find formulas for the areas of each of these polygons in terms of the number of sides n , and show that in each case the limit as n goes to infinity is in fact π .

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

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

Editor-in-Chief: Bruce Hanson

Associate Editor: Beth Speich

MM Czar: Donna Brakke

Problem Guy: David Molnar

mathmess@stolaf.edu