The Almagest

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

Volume 6, No. 3 October 14, 2013

Alma College
Alma, MI 48801

Monday's Math Colloquium

Why should someone study statistics? Our next colloquium speaker asked herself this question when she was a student at Alma College. She began to find an answer through experiences such as a summer research experience for undergraduates (REU) at Miami University of Ohio and the Director's Summer Program (DSP) at the National Security Agency. She discovered that statistics is an integral part of the decision-making process and can be used to make decisions ranging from where to live once you graduate from college to how many millions of dollars should be spent on purchasing energy each year. In this talk, our speaker, ***Dr. April Kerby***, Assistant Professor of Statistics at Winona State University, will tell you about her journey to statistics, how statistics can be used to make informed decisions, and the future of the discipline.

"*Why Should I Study Statistics*"

Presenter: Dr. April Kerby
Date: **Monday, October 21st**
Time: 4:00
Place: SAC 113

Refreshments at 3:50.

Important Meeting For Seniors

All senior mathematics and computer science majors are required to attend a meeting on **Tuesday, October 22nd** at 4:00 in SAC 216. At this meeting we'll provide details about the written and oral components of the senior presentations.

Why are we behind?

It has long been a critique of American schools, that our students are consistently out-performed by foreign counterparts. Researchers at the University of Missouri, however, may have identified one of the reasons that the U.S. ranks 25th out of 34 countries in math achievement: *the curriculum*.

While the traditional American math curriculum is typically introduced in year-long content blocks, students in high-performing countries typically see a different course of instruction: an integrated curriculum. Rather than working through Algebra 1, Geometry, Algebra 2, and possibly Pre-calculus, many students outside of the U.S. receive a yearly curriculum of selected topics from each of these areas. A ninth grade math class in Germany, for example, could see topics in algebra, geometry, and even calculus.

While many educators still defend the traditional approach to math education, it is possible to speculate why an integrated approach to learning math could benefit students, particularly on standardized tests. Consider two American students preparing to take a test such as the ACT. One student is enrolled in Calculus as a junior. This student has not seen a geometry class since middle school, and is now required to take a test assessing many of those concepts. A second student is enrolled in Geometry as a junior. His standardized test, however, will assess topics in Algebra 2 he has never seen. Under an integrated curriculum, however, both students would be continually learning topics in all areas, leaving them better prepared for standardized tests. If we want to remain competitive, it may be time the U.S. considered letting go of tradition in search of more effective instruction. To read the full article, visit ***http://bit.ly/1cDLnur***. *Katie Krauss*

Second Call for MATH Competition

You are invited to participate in the 19th annual MATH Challenge, held on **Saturday, November 2nd**. The MATH Challenge is a *team-oriented*, 3-hour exam consisting of ten interesting problems dealing with topics found in the undergraduate math curriculum. Teams consist of 2 or 3 students, and you'll take the exam on campus from 9:30 am to 12:30. You may form your own team or you can simply be placed on a team. Before the exam, you'll be provided with a "hearty breakfast" of waffles, bagels, donuts, and juice. If you're interested, please contact Professor Sipka.

News From The Math Club

The Math Club will be participating in the Science Blowout on Friday, November 1st, from 12:30 to 2:30. The group meets **EVERY WEDNESDAY at 9:15 pm** in the Wright Hall lobby. *Everyone is invited!* The leaders are:

President	**Emma Patmore**
Vice President	**Phil Ryskamp**
Secretary	**Christine Wiersma**

A Quote from Albert

Pure mathematics is, in its way, the poetry of logical ideas.—Albert Einstein

Solution to Previous Problem

What is the probability that in drawing three cards from a standard deck without replacement, one will obtain a spade, a queen, and a diamond in that order?

Luke Bent was the first student to submit a correct solution, and he submitted it written on a *napkin*. He divided the problem into four cases, computed the probability of each case, and then added the probabilities together getting an answer of $\frac{1}{204}$.

Case 1: The spade and diamond are both queens.

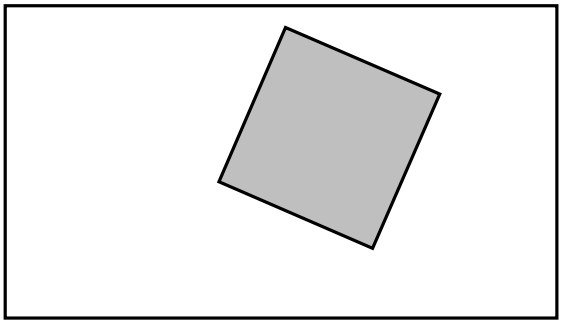
Case 2: The spade is a queen, diamond is NOT.

Case 3: The diamond is a queen, spade is NOT.

Case 4: Neither spade nor diamond is a queen.

Puzzle of the Bi-week

On a standard-sized sheet of paper, a square is drawn whose side lengths are smaller than the smaller dimension of the paper. Your goal is to cut out this square, precisely, with a ***single straight cut*** using scissors. You are allowed to fold the paper. Explain how to do it.



A prize of **$2.00** will be awarded to the FIRST student who submits a correct solution to Prof. Sipka.

Student assistant:	Katie Krauss
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Distribution:	Deb Smith

If you would like to submit an announcement or a short article, please send it via e-mail to Tim Sipka (sipka@alma.edu).