

# The Almagest

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

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February 10, 2014

Alma College  
Alma, MI 48801

## ***A Busy Week for Math Students***

This is an extremely busy and fun-filled week for math students and faculty. We will have three visitors this week. Two are candidates for the position in mathematics we are attempting to fill (the replacement for Dr. Putz), and one is the speaker for Tuesday's math colloquium. Your attendance at these talks would be appreciated.

### **Monday, February 10<sup>th</sup>**

**Nora Youngs**, a Ph.D. candidate from the University of Nebraska, will be giving a presentation on her research at **3:00 in SAC 109**.

### **Tuesday, February 11<sup>th</sup>**

**Dr. Michelle Intermont**, Professor of Mathematics at Kalamazoo College, will be our colloquium speaker. Her talk, *The Sound of Algebra*, will be on the topic of English change ringing as an application of abstract algebra. You will discover the mathematics behind change ringing, and you'll hear some, too. Her talk will be at **4:00 in SAC 113**. As always, refreshments at 3:50.

### **Thursday, February 13<sup>th</sup>**

**Michaela Kubacki**, a Ph.D. candidate from the University of Pittsburgh, will be giving a presentation on her research at **3:00**.

## ***Seniors—Remember the MFAT***

Please be sure to take the MFAT at **6:30 in Dow L1** on one of the following days this week.

**February 11:** MFAT test – 1<sup>st</sup> opportunity.

**February 12:** MFAT test – 2<sup>nd</sup> opportunity.

## ***Connecting the Dots in Math Education***

The format of the high school math curriculum is familiar to any student. Each day is devoted to the mastery of a single topic. Students practice this new concept and the next day move on to something new, revisiting the previous concept only when prepping for the test. This method is the norm, but is it really the best way to learn math?

Robert A. Bjork, a psychologist at the University of California, Los Angeles, is studying a different approach that he hopes will help students perform better in the math classroom. Rather than blocking content into sections that are discussed for a day and then ignored for extended periods of time, Bjork proposes interweaving of topics. By blending new information with familiar concepts, interweaving aims to help students not only retain what they have learned but also guide them in building connections between concepts and differentiating between types of problems: taking concepts out of isolation and connecting the dots, so to speak.

This approach finds its foundation in cognitive science, but it is also well grounded in common sense. In what other field does one intensively practice a single skill and then move on, expecting one's skill level to remain constant? Would one expect to master an instrument playing only one type of scale a day? Additionally, we rarely encounter math problems in our daily lives structured in the context of a textbook chapter. Students know exactly what formula or rule to use when solving a homework problem based on the context of the chapter, but reality provides no such help.

Based on the theory and research supporting its use, interweaving certainly seems to be an idea worth considering.

Read the full article at <http://nyti.ms/1ne2tQc>.

*Katie Krauss*

## News from the Math Club

The Math Club will now be having its regular meeting every two weeks. The group will be meeting this **Tuesday at 7:00** in the lobby of SAC to work on publicity. *Come!* Eat pizza and hang posters with them. *Everyone is welcome.*

President: **Jacob Blazejewski**  
Vice President: **Krystle Reiss**  
Treasurer: **Hannah Austin**  
Secretary: **Christine Wiersma**  
Student Congress Rep: **Shelly Scribner**



**WE WANT YOU!**

## Solutions to Previous Problems

A set of consecutive positive integers beginning with 1 is written on a blackboard. One number is erased. The average (arithmetic mean) of the remaining numbers is  $35\frac{7}{17}$ . What number was erased?

$1, 2, 3, 4, 5, \dots, x-1, x, x+1, \dots, n$

**Dalton Potter** was the \$4.00 prize winner for this problem. He correctly showed that  $x = 7$  and  $n = 69$ . **Dr. Thall** also submitted a correct solution.

Here's an interesting problem I found in the January 19<sup>th</sup> issue of *Parade* magazine.

**Which of the following does not belong?**

- (a) large green square
- (b) large red circle
- (c) large green circle
- (d) small green circle

Within a few hours of posting the problem, **Chris McDonald** submitted the following solution:

"The set of characteristics that does not fit with the group is set (c) because each (a), (b), and (d) hold characteristics unique to the other sets, while set (c) does not."

**Jason McKelvey** and **Dalton Potter** also submitted correct solutions.

## Puzzle of the Bi-week

There are three boxes, exactly one of which contains a prize. Each box has a label with a visible statement on it, and *exactly one* of the statements is true.

Gold box label: "The prize is in this box."

Lead box label: "The prize is not in the gold box."

Silver box label: "The prize is not in this box."

*Which box contains the prize?*

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

Student assistant:	Katie Krauss
Faculty advisor:	Tim Sipka
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).*