

The Almagest

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

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Our Last Colloquium – Monday, Nov. 26th

Early in my career as a student I found comfort and joy in studying mathematics. I enjoyed the structure, the certainty, the sense of accomplishment, and the fact that so many of the topics made sense to me. Thankfully, I had several good math teachers along the way who were very good at explaining tough topics. And though it was never their intention, I mistakenly formed the impression that mathematics contained few surprises.

Now, after decades of teaching and discovering more truths, I have an entirely different impression. *Mathematics is filled with surprises!* There are numerous results that defy our intuition, and though not quite as plentiful, there are many easy-to-believe conjectures that are surprisingly hard to prove. In this talk, **Professor Tim Sipka** will share a few of his favorite curiosities and counter-intuitive notions.



“Curiosities and Counter-intuitive Notions in Mathematics”

Date: **Monday, November 26th**

Time: 4:00

Place: SAC 113

Refreshments at 3:50.

Math Club

The Math Club meets **EVERY TUESDAY** at 9:00 pm in Dow 132. Please come.

Everyone is welcome!



Tutoring for Calc 1 and Calc 2

There are TWO math tutors, **Cheyenne Kalfsbeek** and **Sayde Hinckley**, who are anxious to help any MTH 121 or MTH 122 students with their confusion. Please drop by **SAC 213** on Tuesday and Thursday from 7 to 9 pm for help.

Now is the Time to Consider REU's

Have you ever thought about going to graduate school to study in mathematics or computer science? Would you like to “test the water” and see if grad school might be the right thing for you? If you're a *junior* wrestling with these questions, then please consider applying for a summer REU (Research Experience for Undergraduates). This is a great opportunity to spend 7 or 8 weeks of the summer working on some interesting project in mathematics or computer science. And to make it even more attractive, you'll receive a stipend of approximately **\$4000** in addition to free room and board. There are numerous REU's dealing with a wide variety of topics. Please check out the topics and deadlines for applying at the following website: www.ams.org/employment/reu.html

Math Honorary

Math Students...did you know that that Alma College has a chapter of Pi Mu Epsilon, a national mathematics honor society? Well, we do, and you could be invited to join. To find out about the requirements for membership, please visit the PME website at **pme-math.org**.



Even the Best Make Mistakes

With three weeks of classes and exams left, I think it's fair to assume that a lot of people are feeling low on energy. That isn't unnatural, and it likely reflects the level of effort that you have put forth leading up to this point. Regardless, with depleted energy stores usually come more silly errors that otherwise wouldn't be made. What is important to realize is that everyone makes these from time to time—sometimes these goofs even find their way onto postage stamps.

In 1901, an Italian physicist by the name of **Enrico Fermi** was born. He was educated in Pisa, Italy. Following this he went on to work in Gottingen, Leyden, and Florence before being made a professor at the University of Rome. Fermi created what is now known as Fermi-Dirac statistics and in 1938 he won a Nobel Prize for his work. The work was the discovery of the statistical laws governing particles according to Pauli's Exclusion Principle.

Leaving fascist Italy in 1938, he came to America where he eventually joined the faculty of the University of Chicago. In 1942 he created the first energy-producing atomic pile. Clearly the man was brilliant. Yet, he wasn't immune to making errors.

If you look closely at the stamp below, you will see formulas relating to Schrodinger's equation. In the upper left corner is supposed to be the expression for alpha. However, what it says is $\alpha = \frac{h^2}{ec}$. What it

should read is $\alpha = \frac{e^2}{hc}$. The moral of the story is, even if you make a mistake or two at least it won't forever be recorded on a postage stamp. Cut yourself some slack and I hope that you found this slight digression from mathematics and trivial fact as interesting as I did. *Cheyenne Kalfsbeek*



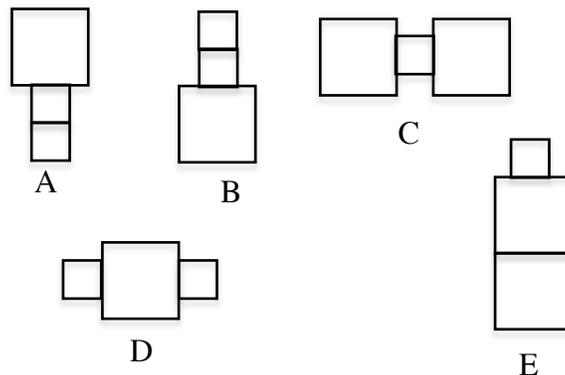
Solution to Previous Puzzle

If one-and-a-half woodchucks can chuck one-and-a-third cords of wood in one-and-a-fourth hours, how many cords of wood can one woodchuck chuck in one hour? **Eric Ferrara** won the \$1 with his correct solution of $\frac{32}{45}$.



Puzzle of the Bi-week

Which of the following designs is the odd one out? That is, which one has no partner?



A prize of **\$1.00** will be awarded to the 1st student who submits a nicely written proof to Prof. Sipka.

Student assistant:	Cheyenne Kalfsbeek
Faculty advisor:	Tim Sipka
Distribution:	Jackie Gage SAC 224

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



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