

The Almagest

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

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February 20, 2012

Alma College
Alma, MI 48801

Want a Letter of Recommendation?

At this time of the year many students ask professors to write letters of recommendation. If you're planning to do this, here are a few helpful suggestions.

1. Ask professors who know you well academically. They will be most able to identify your strengths and weaknesses, to compare your abilities to those of your peers, and to defend your natural ability despite that low grade you may have received in a course.
2. Make an appointment with each professor to discuss your application. Simply leaving a note or sending an e-mail is discourteous and dangerous.
3. Provide your professors with a short and informal résumé. This may include a summary of your grades, goals, honors or awards, math related activities (e.g. R.E.U.'s), and any relevant work experience.
4. Give your professors ample time to write the letter. I like to have at least *two weeks* to complete the task. And don't forget to provide them the name and address of the person to whom the letter is being sent.

Important Dates for Seniors

February 21: MFAT 5-7 pm

March 9: Your paper is due.

March 13: Presentations begin @ 4:00 and Senior dinner @ 5:30

Fill in the blank: $\int \sec^2(\text{gent}) d(\text{gent}) = \underline{\hspace{2cm}}$

Focus on Faculty: Prof. Tincy Goggin

In 1978, Burton, Michigan native and Alma College alumna, Tincy Goggin, made her way back to the Alma bubble to teach only two years after she graduated. In those two years, Professor Goggin went to Michigan State University to get her MBA in finance, even though she's a die-hard Michigan fan. She originally returned to Alma to teach in the business department (some of her students were actually classmates at one point) and switched to math and statistics; being an undergraduate math and business major, she is very knowledgeable in both areas.



When she isn't hounding her students to do their homework, Professor Goggin runs a commercial warehousing business in Flint and teaches fitness and exercise classes, one of her favorites being Zumba. Physical fitness is something very important to her; whether it's skiing, golfing, hiking, or biking, Professor Goggin loves to stay active and has completed two 5K runs since she's turned fifty. Proud mother of two, her son is an attorney like his father and teaches math here at Alma, while her daughter is studying physical therapy in North Carolina at Duke University. Professor Goggin also has a 110-pound Newfoundland who is a giant bundle of love. If you want to get to know Professor Goggin better, you should sign up for one of her classes or go to Zumba in the Rec Center on Mondays at 4:30 or Thursdays at 5:30.

Jon Young

Topics for Senior Presentations

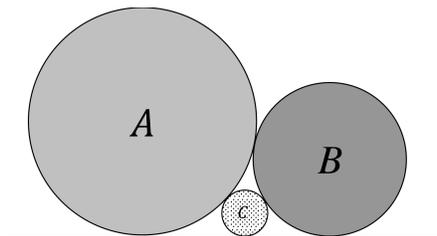
Amy Baranowski, "Euclid's Proposition VI. 31"
Madison Behmlander, "The Friendship Theorem"
Robert Bixler, "Music Information Retrieval/Recurrent Neural Networks for Use as a Classifier"
Matt Boucher, "Chemical Graphs"
Josh Daniels, "Lucas Tower" (Tower of Hanoi)
Chris Goepfrich, "Basel's Problem"
Adam Jutila, "The Monty Hall Problem"
Kelsey Knapp, "The Solution of the Cubic"
Ryan Lennox, "Lighting and Shading Algorithms in 3D Computer Graphics"
Melissa McIntosh, "Heron's Formula"
Jordan Newhouse, "L'Hôpital's Rule"
Erin Pintek, "The Binomial Theorem"
Ian Rhynard, "Fourier Transforms"
Garrett Rodriguez, "The Area of a Circle"
Bryan Scheiber, "WEP Wireless Encryption"
Matt Stephens, "The Number of Platonic Solids"
Chad Stripling, "Mathematics in Material Science"
Kristian Taylor, "Nash Equilibrium"
Chris Welcher, "Pleasing Mashups from Large Music Libraries"

A Mathematical Love Story ... on Video

In the last issue of the *Almagest*, I recommended that you consider reading the mathematical love story, *The Dot and the Line: A Romance in Lower Mathematics* by Norton Juster. If you've not had a chance to read it, you might consider watching the ten-minute video version of the book. You can easily find it on YouTube.

Solution to Previous Problem

The three circles drawn below are all tangent to each other and tangent to the line. The radius of circle *A* is *a*, of circle *B* is *b*, and of circle *C* is *c*. What is *c* as a function of *a* and *b*? That is, express the radius *c* in terms of the radii *a* and *b*.



There's still a **\$2.00** reward that will be given to the first student who solves this problem.

Problem of the Bi-Week

Color the xy -plane using 2 colors, say red and blue. *Prove* that no matter how the coloring was done, there must be two points, exactly 1 foot apart, which are the same color.

A prize of **\$3.00** will be awarded to the FIRST student who submits a correct proof to Prof. Sipka.

Visit the Math Help Center

For MTH 113, 121, & 122:

Monday through Thursday: 7-10 pm in SAC 216

For MTH 116: Thursday: 7-10 pm in SAC 213

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