

POINTS AND ANGLES

Newsletter of the Metropolitan
Mathematics Club of Chicago

NCTM
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Metropolitan
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Club of
Chicago



Volume XL

September 2005

No. 1

Can You Keep a Secret? Cryptography and Inverse Functions

By RICH RUKIN

An enormous amount of information is exchanged each day in the form of digital transmissions such as bank transactions, e-mail, internet orders, telephone calls and many other forms of communication. The need to prevent unwanted third parties from viewing or interfering with these exchanges has created a significant need for practical and reliable cryptography. Powerful and convenient new cryptographic methods have been developed to meet security needs. These new methods, however, have resulted in controversy regarding the proper balance between individual privacy rights and the government's ability to protect the public from criminals and terrorists. The mathematics involved in these cryptographic methods is well within the grasp of high school students: functions and their inverses, modular division, and prime factorization. Many students will find these topics motivational as they study modern cryptography because they are accessible and relevant.

Our September speaker, Ray Barton, teaches at Olympus High School in Salt Lake City. he is also an instructor for TI's Teaching Teacher with Technology (T3) program. He is the author of several articles, curriculum, and books, and is a frequent speaker at institutes. We look forward to an outstanding presentation in September of 2005.

REMEMBER!! You can earn CPDU credits for attending dinner meetings!

Date: Friday, September 30, 2005

Time: 5:30 p.m. Doors Open

6:00 p.m. Social Hour

7:00 p.m. Dinner and Talk

Place: Fountain Blue Banquets &
Convention Center
2300 Mannheim Rd.

Des Plaines, IL

(847) 298-3636

Cost: Members \$31

Nonmembers \$37

RESERVATION DEADLINE

Monday, September 26th, by noon,
please!

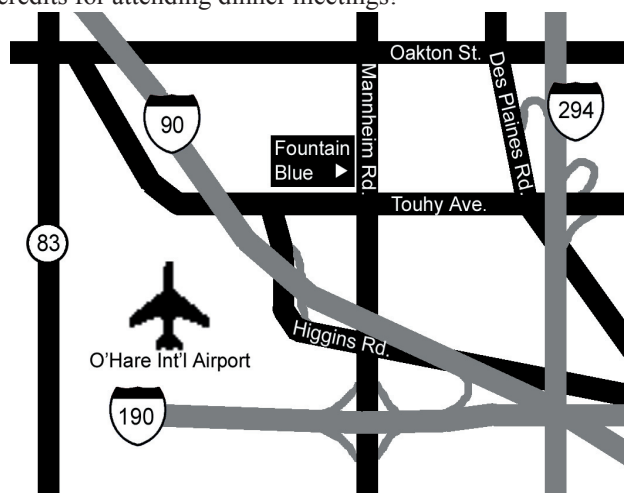
To RESERVE:

Call Evanston Math Department at

(847) 424-7600 or

email: reservations@mmcchicago.org

Requests for special meals must be made
in advance.



From Southbound I-294 &
Eastbound I-290:

Exit at I-190 West to O'Hare; Exit onto North
Mannheim Rd.; Take Mannheim Rd. North
2.25 miles.

From Northbound I-294:

Exit at West Touhy Ave.; Take Touhy Ave. to
Mannheim Rd.; Turn right on Mannheim Rd.

Public Transit:

Take the CTA Blue Line to the Rosemont
Bus Terminal; Take Pace Bus #223; Exit at
Touhy Ave. & Lee Rd.; Walk East on Touhy
to Mannheim Rd.

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Points from the Interior

BY JOHN DIEHL

I hope everyone had an enjoyable summer. We certainly had a hot spell, with no rain. It got to the point where my grass was all brown. Well, I have heard people say that the grass is greener on the other side of the fence. Of course the phrase is often meant figuratively, not literally.

Suppose we apply the saying to our professional lives. I am sure many of us at one time or another have thought about a different position in a different place. Maybe even a nicer climate, or a lower cost of living.

I have been blessed in my professional life to have the opportunity to visit many places. I have attended conventions or institutes in a lot of states in many different regions. I have had the good fortune to present in England, Germany, and Puerto Rico. I have had contact with many, many teachers, in many places. I don't mention this to promote myself, simply to furnish perspective.

Based on my experiences, I am contemplating where the grass is greenest. Let me think...I know! It's right here! I sincerely be-

lieve that the Chicagoland area is the finest mathematics education community around. I cannot imagine any other place with as many ambitious and dedicated professionals, nor as many outstanding organizations. I think about ICTM and its fantastic conference each year. I look at the number of teachers at NCTM national and Regional meetings. I look at the number of teachers at T3 meetings. We have our own summer institutes and county institutes. We host daily and weekly College Board institutes. And right up at the top is our own MMC! Think about the crowd we get on a Friday evening. How many locations could do that? Don't forget the great MMC Saturday workshop. How many places draw that many people on a Saturday?

I also am awed by the number of teachers from this area that are in leadership positions with NCTM, ICTM, T3, CPAM, College Board, SEECAS, and so many others.

Most of all, I think about how the members of this mathematics education community give so generously to the community. This generosity perpetuates the excellence. I recall how Larry Krupicka helped a new teacher, and I recall the leadership skills of John Brunsting. I think about how much I have learned from John Benson, Wally Dodge, Sally Dodge, Jerry Cummins, Ray Klein, Bob Ruzich, Robin Levine-Wissing, Kristen Clegg. I admire the leadership of Bob and Sam Urbain, Sue and Randy Phippen, I appreciate great colleagues like Greg Hill and Rich Kick, Harlan Goldberg and Glenn Gabanski, and Rick Cazzatto. I think I am running out of space and can't name them all. (I'm pretty sure yours was next.)

In summary the grass is greenest right here. Take advantage of it. I urge all of us, veterans and newer teachers to keep working together. Newer teachers, get involved. Veteran teachers, stay involved and interact with newer teachers. Let's keep the grass growing.

MMC BOARD OF DIRECTORS		Term
John Diehl President	Hinsdale Central High School, Hinsdale	2004-2007
Rich Rukin President-Elect	Evanston Township High School, Evanston	2005-2008
Gwen Zimmermann Past President	Hinsdale Central High School, Hinsdale	2003-2006
Steve Viktora Secretary	New Trier High School, Winnetka	2005-2008
Ron Vavrinek Treasurer	Illinois Math and Science Academy (Retired)	2005-2006
Mary Wiltjer Membership Coordinator/Conference Co-Chair	Oak Park and River Forrest High School, Oak Park	2004-2007
Ilene Hamilton Government Relations	Stevenson High School, Lincolnshire	2005-2008
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Martin Funk Webmaster	New Trier High School, Winnetka	2005-2006
George Pryjma Historian	Northeastern Illinois University	2005-2006
Paul Cristmas Publicity/Posters	Buffalo Grove High School (Retired)	2005-2006
Phil Gartner <u>Scholarship Chair</u>	Glenbrook South High School, Glenview	2005-2008
Kristen Clegg <u>P&A Editor</u>	Educational Consultant, Streamwood	2004-2007
Jenny Wexler Board Liaison	New Trier High School, Winnetka	2003-2006
Ray Klein <u>P&A/Conference Staff</u>	Glenbard West High School, Glen Ellyn	2003-2006
Carol Nenne Conference Co-Chair	Lemont High School, Lemont	2004-2007
John McConnell Conference Treasurer	North Park University	2005-2006

MMC Dinner Coupon

\$5 off a dinner for New Attendees

— or —

\$7 off a dinner for New Attendees

who join MMC

name _____ date used _____

Valid only at the MMC Meetings on September 30, October 28, November 18, and December 9, 2005.
Limit one (1) coupon per person. Not for use with other discounts.

Board Report
Meeting of 24 August 2005

MMC Problems for September 2005
from Michael Keyton

The Board of Directors held its first meeting of the 2005-2006 academic year on 24 August 2005.

Proving that three points are collinear or that four points are concyclic are always interesting and sometimes difficult. In an introduction class of geometry, I try to make these questions two of the major investigations of the year. The ways of going about each almost encompasses all the topics covered.

Mary Wiltjer reported a club membership of 481, of whom 6 are first year members, 45 are retired members, 36 are student members, and 2 are life members.

(1) Collinear: Given triangle ABC, the external bisector at B and the internal bisector at C intersect at H, the external bisector at C and the internal bisector at B intersect at T. Prove: H, A, and T are collinear.

Ron Vavrinek submitted a treasurer's report indicating that the club is in good financial shape; the Board approved his report unanimously.

(2) Conyclic: Given two circles with centers P and Q intersecting at A and B, line CD through A intersects circle P at C and circle Q at D, tangents to the circles at C and D intersect at M. Prove: M, C, B, and D are concyclic.

Carol Nenne presented a draft of revisions to the By-Laws. During the next several months these proposed changes will be presented to the members, and there will be some special sessions with Board members for members to discuss these items. It is intended that the vote on the amended document will take place in January.

POINTS AND ANGLES
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Points and Angles, published nine times per school year, is the official publication of the Metropolitan Mathematics Club of Chicago. Founded in 1913, the Metropolitan Mathematics Club is the National Council of Teachers of Mathematics' first affiliate.
The official club website: <http://www.mmchicago.org/>

The next meeting of the Board is scheduled for 15 November 2005. Members of the club are welcome to attend any Board meeting, but please contact John Diehl at jdiehl@hinsdale.86.org to learn the location of this meeting before 8 November if you plan to attend. Because this is a dinner meeting, you would be expected to pay for your meal.

Correspondence may be directed to the editor:
Kristen Clegg
517 Wildflower Way
Streamwood, IL 60107
kristenclegg@comcast.net

MMC Membership and Change of Address Form

Mail to: MMC
415 S. Ridgeland Ave. #2
Oak Park, IL 60302

Make check payable to MMC.

Please use a different form for each person.

Name _____

Membership: New Renewal

Address _____

Choose one:

1 year (\$20) _____

2 year (\$35) _____

3 year (\$50) _____

Phone _____

1st year teacher

School _____

retired (\$10) _____

Address _____

student

Phone _____

Donations:

Scholarship Fund _____

Speaker Fund _____

E-Mail _____

Total amount of check: _____

Check preferred mailing address above.

Change of Address

NOTICES & REMINDERS

MEECAS Upcoming Meetings
 Saturdays
 9 a.m. to 12 noon
 Continental Breakfast provided

- * September 24, 2005 "What's New in CAS"
 Schaumburg High School
 1100 W. Schaumburg Road, Schaumburg, IL 60194
- * October 29, 2005 "CAS Camp for CAS Novices"
 Glenbrook South High School
 4000 W. Lake Avenue, Glenview, IL 60026
- * December 3, 2005 "Proof and CAS"
 Glenbrook South High School
 4000 W. Lake Avenue, Glenview, IL 60026

For questions, more information, or to RSVP,
 contact Michelle Kolet at 847-755-4600 or mkolet@d211.org

MEECAS is a consortium for mathematics educators who are exploring, or are interested in exploring, the use of computer algebra systems (CAS) in mathematics classrooms.

<http://gbs.glenbrook.k12.il.us/Academics/gbsmat/meecas/home.htm>

If you would like a notice or reminder to appear in POINTS AND ANGLES, please email the text you would like to appear to kristenclegg@comcast.net no later than the date of the MMC meeting preceding the issue in which you would like it to appear. All notices are subject to editing.

GET INVOLVED IN MMC!

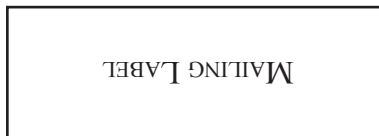
We will be forming an Elections Committee to determine the slate for MMC Board positions. If interested, please notify Gwen Zimmermann (gzimmerm@hinsdale86.org or 630.570.8420). The Committee's first meeting will take place at Fountain Blue immediately preceding the October

WE NEED YOU! VOLUNTEER!!

Volunteer to help at the NCTM Regional Meeting in Chicago September 20-22, 2006

It takes great people like you to make the conference a success! Contact either Gwen Zimmermann (gzimmerm@hinsdale86.org) or Laura DiMarco (ldimarco@hinsdale86.org) for more information. (or phone 630.570.8421)

Your membership renewal date appears in the upper right corner of the label.



METROPOLITAN MATHEMATICS CLUB OF CHICAGO
 c/o MMC
 415 S. Ridgeland Ave. #2
 Oak Park, IL 60302

