# NEMATYC NEWS

Available online – www.NEMATYC.org

Vol 14, No 1 Newsletter of the New England Mathematical Association of Two-Year Colleges Spring, 2006

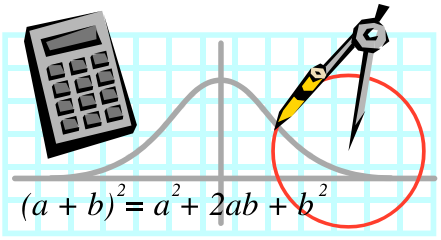

Conference Issue

## 32nd Annual Meeting

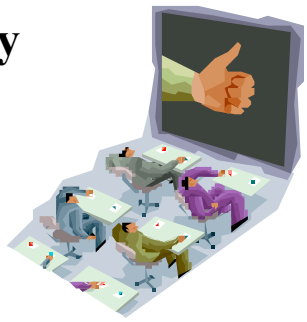
# NEMATYC 2006

# Building A Better Math Class

## Southern New Hampshire University




**Manchester, NH**
**Friday and Saturday**
**April 21 – 22, 2006**



**Greetings from your conference chairs!**

The preliminary program for the April 2006 conference can be found in this issue. We can't promise that April in Manchester will be anything like *April in Paris*, but we can promise that you will learn something at the conference, and you will enjoy schmoozing with your colleagues.

As you can see, there are a wide variety of topics, everything from old math books to new technologies to using art in math class. Speaking of art, we hope you join us Friday night for dinner and an opportunity to tour the Zimmerman House, a Frank Lloyd Wright designed house in Manchester.

Have a great spring semester and we are looking forward to seeing you at the conference.

**David Cox**
**Alec Ingraham**

***Program and Details Inside***

**SPECIAL OPTIONAL FRIDAY EVENT**

**Visit the Frank Lloyd Wright**

## Zimmerman House

Frank Lloyd Wright designed the Zimmerman House in 1950, planning its gardens, its built-in and freestanding furniture, its textiles, and even the mailbox!

http://www.greatbuildings.com/buildings/Zimmerman_House.html

see page 6

# NEMATYC EXECUTIVE BOARD AND LEADERSHIP – 2004-2006



## PROPOSED NEMATYC CONSTITUTIONAL AMENDMENTS

The Executive Committee approved two amendments to Article 6 at the November 4, 2005 meeting. These are delineated below. Deletions are ~~struck out~~, and additions are underlined.

**The amendments below will be presented for voting at the conference business meeting.**

ARTICLE 6 EXECUTIVE COMMITTEE

The Executive Committee shall consist of the Past-President, President, Vice-President, Secretary, Treasurer, and ~~two~~ four elected at-large members.

The term of office of At-Large Members is two years. ~~One is~~ Two are elected in even-numbered years, and ~~one is~~ two are elected in odd-numbered years.

The Executive Committee may fill vacancies as they arise on the Committee.

The Executive Committee will meet as necessary to facilitate the business of the organization. The President shall normally schedule these meetings.

Rationale: (1) Expand involvement of members, and wider representation in the leadership, by doubling the number of at-large members from two to four. (2) The Constitution is currently silent on filling vacancies, but the well-being of the organization is best served by not having vacancies. However a special election would be cumbersome and expensive, and, the Executive Committee feels, not warranted. Thus the recommendation is to empower the Committee to fill vacancies.

I just read *The Millennium Problems* by Keith Devlin (who spoke at the AMATYC meeting in San Diego in November) and discovered there the formula $\frac{\pi^2}{6} = \sum_{p \text{ prime}} \frac{1}{1-(1/p)^2}$. Related to Euler's "zeta function" it is a meaningful formula that uses every one of the infinite number of prime numbers, and produces a result expressible in terms of π. I find such a formula fascinating.

P. Mahler

ANNOUNCING THE

## NEMATYC STUDENT MATH LEAGUE RECOGNITION AWARD PROGRAM

The purpose of the NEMATYC Student Math League Recognition Award Program is to foster extracurricular mathematics learning opportunities for students through participation in the AMATYC Student Math League.

Annually, the top placing student in the AMATYC Student Mathematics League Competition, in up to five schools in NEMATYC's service area, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont, will receive a $100 Recognition Award. The first awards will be given in spring 2007. Full rules and more information will be disseminated at the conference and will be on the web site.

NEMATYC encourages you to consider joining the AMATYC Student Mathematics League for 2006 – 2007 and participating in this NEMATYC program. Your involvement can be as simple as advertising and conducting one one-hour testing session each semester, and can include pre-test study sessions, or even a campus mathematics club. It may be noted that AMATYC is a sponsor of Mu Alpha Theta (MAΘ), a national mathematics honor society primarily for high school students but which supports two year college chapters as well. Information on both the SML and MAΘ is at the AMATYC web site, www.AMATYC.org.

# NOMINATING COMMITTEE REPORT

The NEMATYC Nominating Committee is pleased to present the following slate of officers for election at the annual business meeting in April.

**PRESIDENT (2006 – 2008)**

**Andrew Perry** has been a Professor of Mathematics at Springfield College since 1999. He is currently finishing his second term as Vice-President of NEMATYC. Andrew has given presentations at the past three NEMATYC conferences.

**VICE-PRESIDENT (2006 – 2007)**

**Carol Henry** is a Professor of Mathematics at Middlesex Community College. Prior to joining the faculty at Middlesex, Carol taught at Pine Manor, Wheelock and Salem State Colleges. Carol has presented at AMATYC and NEMATYC conferences.

**SECRETARY (2006 – 2008)**

**Dora Ottariano** is a Professor of Mathematics at Middlesex Community College. She began teaching at Middlesex Community College in 1985. She has been a member of NEMATYC for many years and has been a presenter at the annual conference.

At the wishes of the membership, the number of At-Large positions on the Board will be increased to four; two new members will be elected to two year terms (2006 – 2008) and one member will be elected to a one year term (2006 – 2007). (See the proposed constitutional amendments on page 2.)

**MEMBERS-AT-LARGE**

**Javad Moulai** (2006-2008)
Javad is a Professor of Mathematics and Science at Roxbury Community College in Boston, Massachusetts. He has taught all levels of physics and mathematics at RCC for over twenty years. Javad participated in the 100% Mathematics Project, a Massachusetts Community College System initiative funded by FIPSE, to revitalize and support developmental mathematics education in our community colleges.

**Curtis Mitchell** (2006-2008)
Curtis is in his second year of teaching at Greenfield Community College, teaching a range of courses from Introductory Algebra through Applied Calculus. He has been active in AMATYC as a fellow in the second cohort of Project ACCCESS. He is interested in learning and sharing effective ways of teaching community college students, and is especially interested in cooperative learning, online learning, and pedagogies of inclusion.

**Lauren Brewer** (2006-2007)
Lauren has been teaching at STCC since 1987. She has been the co-chair of the math department since 2002.
Lauren was also the Mathematics team chair for STEMTEC (Science Technology, Engineering and Mathematics Teacher Education Collaborative), an NSF funded program to promote excellence in teaching.

The committee would like to remind the membership that nominations will also be accepted and welcomed from the floor prior to the election.

Respectfully submitted,
Maureen Woolhouse, Chair; Members Judy Carter, Phil Mahler

## FROM YOUR NEMATYC PRESIDENT ELAINE PREVITE

Happy New Year!

Welcome to the beginning of another semester. I hope you had a restful semester break and are ready to face the challenges another semester places upon you. Can you believe it's 2006? (2006 - does that make you feel a little *old*?) But remember, 2006 = 2000 + 6, and 6 is a perfect number. So may this be a perfect year for all of us!

Of course, we are beginning the spring semester. And every spring brings with it the annual NEMATYC Conference. This year, we will be heading to Southern New Hampshire University for our two-day event. David Cox and Alec Ingraham of SNHU are co-chairing the conference. While Alec has been involved with the NEMATYC Board for a number of years, David is a relatively new addition to our Board. We welcome the experience and enthusiasm they both bring to the planning of the conference, and we know they have a wonderful experience in store for all of us. Read the details of their long, hard work throughout this newsletter. I do hope you and your colleagues plan to join us in New Hampshire.

One of the key features of the Spring conference is the annual business meeting. Since the business meeting closes the conference, I will admit that attendance at the meeting is always a bit light. However, this year's meeting is important in that we have a couple of items that are of interest to all affiliate members. First, we have a slight change to the constitution that needs member approval. The details can be read on page 2, but the change involves opening up member participation in NEMATYC by increasing the number of at-large seats on the Executive Committee (i.e., the Board). Second, past president Maureen Woolhouse and her nominating committee members, Phil Mahler and Judy Carter, have been actively working to put together a slate of nominees for several seats on the Executive Committee (see Maureen's article on page 3). We thank them for their hard work and look forward to the election.

And speaking of our Spring conference, let me also welcome members from the Connecticut AMATYC affiliate, MATYCONN, who recently

*President, page 10*

## FROM YOUR AMATYC REGIONAL VICE PRESIDENT MARYANN JUSTINGER

Erie Community College
Buffalo, NY
justinger@ecc.edu

Hello and Happy New Year to all NEMATYC members!

I'm just starting to work my way into this new position and I would first like to thank Jack Keating for all his years of dedicated service and friendship. I'm sure I'll be calling on him for advice.

The new AMATYC Executive Board just finished its orientation and strategic planning meeting and there are a few items of interest that I wish to share with everyone.

First of all, as you are probably aware, the "Beyond Crossroads" document will be presented at the 2006 annual Conference in Cincinnati, Ohio. Affiliate Presidents should have received or will be receiving shortly a request from AMATYC to endorse the document. There will be a page in the published document that will list all the organizations who have decided to provide an endorsement by the publication deadline. If you need to familiarize yourself with the document, the latest draft can be found at the AMATYC website (www.amatyc.org) under publications. The website also provides membership information for those of you who are not yet AMATYC members and other valuable information about the organization.

Also, we are requesting membership involvement in AMATYC's strategic planning process. An article will appear in the AMATYC *News* inviting all AMATYC members to provide input into the development of a list of core values for the organization. These values will accompany the AMATYC Mission Statement and Strategic Priorities and Goals (see website). Your input is essential in this important process and to the organization. Members are invited to visit the AMATYC website and provide your input on AMATYC's core values no later than April 1. The results of your input will be discussed at the 2006 Spring Board meeting and shared with members in the fall. Please become involved in this important activity.

# Preliminary Program – NEMATYC 2006
# Southern New Hampshire University

| Friday – April 21 | | | | |
|---|---|---|---|---|
| 2:30 – 3:30 | Registration, Refreshments | | | |
| 3:30 – 4:15 | Teaching Mathematics to Art Students (30 minutes) | Concept Map Scoring | Redesigning College Algebra Delivery from Direct Instruction to a Computer Environment | Graphing Calculator Projects for Algebra |
| 4:30 – 5:15 | Using Artwork and Graphics in Learning Developmental Math | Exploring Calculus, A Guided Discovery Approach | | |
| 5:30 – 7:30 | Buffet dinner with tours of the Zimmerman House | | | |

| Saturday – April 22 | | | | | |
|---|---|---|---|---|---|
| 8:00 – 12:00 | Registration, Exhibits, and Continental Breakfast until 10:00 | | | | |
| 9:00 – 9:30 | Welcome | | | | |
| 9:30 – 10:15 | MathXL and MyMathLab by Prentice-Hall | Early American Arithmetic and Algebra Books | An Introduction to Symmetry in Science | Using Excel in Finite Mathematics | ThomsonNow |
| 10:30 – 11:15 | Assigning Authentic Test Grades | Coincidence: Can Statistics Explain Phenomena? | Intersection: Psychology and the Math Classroom in Two-Year Colleges | | |
| 11:15 – 12:00 | Visit the exhibits | | | | |
| 12:00 – 1:30 | Lunch | | | | |
| 1:30 – 2:15 | Use of Technology in a Mathematics Classroom | Laboratory Based Learning to Build Conceptual Understanding of Rational Numbers | The Model Drawing Approach to Problem Solving in the Developmental Mathematics Classroom | The Planimeter – The Practice of Finding the Area Under a Curve | The Mathematics Across the Community College Curriculum Project |
| 2:30 – 3:15 | | Learn More About the Student Mathematics League and How to Start a Team | Meeting The Challenge of Teaching Discrete Mathematics to the Nonmathematician | Who Are The Best Sluggers in Red Sox History? | |
| 3:30 – 4:30 | Business meeting, election, door prizes | | | | |

## FAIRFIELD INN – HOTEL FOR CONFERENCE ATTENDEES – FAIRFIELD INN

**RESERVATIONS**

We have arranged for a special discounted room rate of $65 per night at the Fairfield Inn of Manchester. To get this special rate tell them you are with the SNHU Math Conference when making your reservation. The phone number for the hotel is 1-603-625-2020, and the address is 860 Porter Street. It is a new hotel about 15 minutes from campus and in the heart of Manchester's "miracle mile" shopping district!

**DIRECTIONS to the Inn – Maps elsewhere in this issue**

We are going to assume you can make it to the Manchester area and can get yourself to Interstate 293! Please note if you come up the Everett Turnpike (Route 3) from Massachusetts, take I-293 south to reach the Fairfield Inn. From I-293, take exit 1, the South Willow Street exit, and head north, toward downtown Manchester (and away from the Mall of New Hampshire). Porter Street is the first traffic light after the interstate exits, and it is also just before Dobles Chevrolet/Buick. Turn right onto Porter Street, the hotel is right behind Dobles.

**Directions to Southern New Hampshire University from the Fairfield Inn**

Turn left onto South Willow Street from Porter Street. Cross over the interstate and make a left onto Interstate 293 south. It will merge with I-93, take I-93 North to exit 9N and follow the directions below.

**Don't wait! Make your reservation now!**

**DIRECTIONS to Southern New Hampshire University – Maps elsewhere in this issue**

We are going to assume you can make it to the Manchester area and can get yourself to Interstate 93! Please note if you come up the Everett Turnpike (Route 3) from Massachusetts, take I-293 south to reach I-93, where you will take I-93 north. From I-93, take exit 9N, the Route 3/28 north exit (you can only go one direction at the end of the ramp), and at the first traffic light, turn left. This is W. Alice Avenue. Soon the road will make an abrupt left turn and become Donati Drive. Follow this road to the next stop sign and turn right onto Bicentennial Drive. Follow it to the next stop sign, which is North River Road. Turn right, cross over the interstate, and SNHU will be on the left. Turn left into the first SNHU entrance available, it will be right after the tennis courts. Pass the guard house and turn right. Pass by the first parking lot, pass by Robert Frost Hall (it has three stories with a clock on the front) and park in the lot on the right just past Robert Frost Hall. Registration will be in the front lobby of Robert Frost Hall.

## ABOUT THE ZIMMERMAN HOUSE AND THE FRIDAY BUFFET DINNER

You have a unique opportunity to explore the world of Frank Lloyd Wright. Wright designed the Zimmerman House in 1950, planning its gardens, its built-in and freestanding furniture (picture at the right), its textiles, and even the mailbox! The Zimmerman house offers a glimpse into the 1950s - 1960s, and the private lives of Isadore and Lucille Zimmerman, who lived in the home for 36 years. The tour lasts about 30 minutes.

A van will leave from SNHU at 6:00, 6:30, and 7:00 pm, Friday night. Each trip can accommodate up to 12 people. If the three trips fill up, one additional trip can be added at 7:30. We will fill up the tours starting with the 6:00 tour. The buffet style dinner will afford people the flexibility of working around their tour schedule. The cost of the tour is $10.

Please note that you may purchase the buffet dinner and opt not to purchase a tour ticket. The dinner will feature a cash bar.

## CONFERENCE PRESENTATION ABSTRACTS

**Friday 3:30 – 4:15**

*Ben Blum, Massachusetts College Of Art (30 minutes)*

**Teaching Mathematics to Art College Students**

In order to give art college students a meaningful experience of mathematics, I have made two innovations: (1) teaching a simplified version of Godel's Theorem and (2) having students make, along with written work, art which demonstrates what they have learned. In this presentation, my methods, successes, and challenges will be described.

*Bradford Allen, Lasell College*

**Concept Map Scoring: Performance Based and Relative Achievement Methods**

A concept map is a hierarchical diagram that reflects how knowledge is organized. Concept maps are frequently used to evaluate science and math knowledge and are generally accepted as viable evaluation and research instruments. Because concept map constructions measure students' understandings of the relationships between concepts in various mathematical areas, concept maps provide an alternative to traditional testing instruments.

*Brian Beaudrie, Plymouth State University (90 minutes)*

**Redesigning College Algebra Delivery from Direct Instruction to a Computer Environment**

This presentation will explain in detail the effort at one university when it changed its delivery of College Algebra from a traditional lecture course to one that was technology based in nature, and present research findings that discuss academic performance and student impressions as a result of the change.

*Barbara Boschmans, Plymouth State University* (90 minutes)

**Graphing Calculator Projects for Algebra**

Join me in this hands-on workshop to explore algebra activities with TI-83(and TI 84) calculators. We will explore linear, quadratic and cubic equations through three activities ready to take into your classroom! Some prior graphing calculator skills required (if you have a TI-83/84, please bring it).

**Friday 4:30 – 5:15**

*Jesse Mase, Elizabeth Arsenault, Robert Lansing, Southern Maine Community College*

**Using Artwork and Graphics in Learning Developmental Math**

Will having students produce art and use graphics help them learn developmental math? These professors think so, and will give you several concrete examples that can enhance learning in your own math class. The order of operations is never easy for math students, so have them create a work of art to illustrate PEMDAS! Then, fractions, decimals and percents are really three ways of naming a number. Here is a triangle graphic that will offer a great way to organize and remember the ideas. Another graphic will help students sort out percent problems. PowerPoint slides and actual works of art will illustrate the ideas. Handouts of slides and copies of artworks will be provided and will generate discussion of helping students learn developmental math.

*Joanna Kowsakowski, Lasell College*

**Exploring Calculus, A Guided Discovery Approach**

Students who have the opportunity to make their own discoveries will surely be more motivated, more invested in their own learning and more successful students of mathematics. This workshop will review a manual designed to guide beginning calculus students as they make their own discoveries about the important relationships inherent in mathematics. The activities focus on teaching students to formulate cogent definitions, clearly articulate their ideas, understand how mathematics is used in real-world applications, develop evidence to support their arguments, use visualization to draw valid conclusions and work effectively with others. In other words, they will be doing the work of mathematicians.

**Saturday 9:30 – 10:15**

*Kevin O'Brien, Addison Wesley and Prentice Hall (Commercial Presentation)*

**Web Based Homework, Quizzing and Course Management for Mathematics**

During this presentation, the Addison Wesley and Prentice-Hall representatives will present two web-based resources being offered with their math texts, MathXL and MyMathLab. These web resources would be of interest to instructors looking to offer easily accessed online homework, quizzes, practice problems and tutorials to enhance a traditional course, as well as those teaching hybrid and online courses. Both these resources correlate directly with the scope and sequence of math texts that Addison Wesley and Prentice-Hall publishes.

*Andrew Perry, Springfield College*

**Early American Arithmetic and Algebra Books**

Selected Early American mathematics textbooks will be discussed, with emphasis on nineteenth century algebra and arithmetic textbooks. Special attention will be paid to features which would strike the modern reader as curious, such as the tendency to describe algebraic procedures verbally rather than symbolically.

*David Mello, Johnson & Wales University*

**An Introduction to Symmetry in Science**

An introductory presentation of basic symmetry concepts, such as symmetry transformations, and simple symmetry groups, along with elementary applications of the same to help analyze basic problems in general science and Physics.

*Florence Chambers, Toni Parise, Southern Maine Community College (90 minutes)*

**Using Excel In Finite Mathematics**

This workshop includes the following topics: entering and graphing functions, using the Chart Wizard to find the best fit for data and the corresponding regression equation, using Goal Seek on the Compound Interest formula and equilibrium problems, performing matrix operations, and using SOLVER for Linear Programming problems. Previous knowledge of EXCEL is not required.

*Michael Lee, Brooks Cole Publisher (Commercial Presentation) (90 minutes)*

**ThomsonNow**

ThomsonNow offers a personalized online learning companion that helps students gauge their unique study needs and makes the most of their study time by building focused personalized learning plans that reinforce key concepts. This new resource will help your students diagnose their concept weaknesses and focus their studies to make their efforts efficient and effective. Pre-Tests give students an initial assessment of their knowledge. Personalized Learning Plans, based upon the students' performance on the pre-test quiz, outline key learning needs and organize materials specific to those needs. Post-Tests assess student mastery of core chapter concepts; results can be emailed to the instructor!

**Saturday 10:30 – 11:15**

*Michael Cullinane, Keene State College*

**Assigning Authentic Test Grades**

How confident are we that the grade we assign a student on a test matches the grade the student truly deserves (i.e., has earned)? For instance, if we assign an "86" and we intend to interpret this as a "B", is the interpretation truly valid? Largely this is a matter of the degree to which our assessment of student work is calibrated to our expectations and the institutional grading scale. We will discuss a holistic assessment scheme designed to maximize the chances of assigning test grades that appropriately reflect both instructor expectations and institutional grading guidelines.

*Eiki Satake, Philip Amato, Emerson College*

**Coincidences: Can statistics explain this phenomena?**

The paper illustrates basic statistical techniques and probabilistic reasoning for studying coincidences in our everyday life. These include (1) data gathering methods such as case studies, observational studies, and experiments, and (2) methods of analysis such as probabilistic modeling and special analytic techniques. We will ask, "What is the mathematical cause that creates coincidences?"

*Phyllis Lurvey, Hesser College*

**Intersection: Psychology and the Math Classroom in Two-Year Colleges**

Students who populate a majority of two- year college math classrooms may be understood through the lens of theories and research from the field of psychology. Focusing particularly on students below the pre-calculus level, this presentation will highlight issues of cognitive and psychosocial development, motivation and memory.

**Saturday 1:30 – 2:15**

*Roberta Kieronski, University of New Hampshire – Manchester (90 minutes)*

**Use of Technology in a Mathematics Classroom**

Learn how to use the "apps" key on your TI 83/84 calculator. Classroom worksheets which require some writing and interpretation by students will be shared. A Smart View will be used. Bring your own calculator.

*Walter Stone, North Shore Community College*

**The Model Drawing Approach to Problem Solving in the Developmental Mathematics Classroom**

During problem solving, developmental mathematics students find it easier to convert words to a diagram, and then the diagram into algebraic expressions or equations. Model drawing, the systematic use of iconic representations to represent unknowns in problem situations, will be introduced to solve problems involving whole numbers, fractions, ratios, rates, and percentages. In addition, these diagrams are especially useful in illustrating comparison problems.

*Philip Mahler, Middlesex Community College*

**The Planimeter – the Practice of Finding the Area Under a Curve**

You sketch a curve $y = f(x)$. You don't have an equation which describes it. How do you approximate the definite integral to a high degree of accuracy? The planimeter is a "simple" mechanical instrument which is widely used in the "real" world to find the area inside a closed curve of which you have a printed copy. Most math educators have never heard of it. What does it look like, how is it used? And what is a vernier scale, anyway?

*Adele Miller, Central Connecticut State University*

**Laboratory-Based Learning to Build Conceptual Understanding of Rational Numbers**

College students enrolled in a developmental mathematics course frequently do not have a conceptual understanding of rational numbers. One approach for building understanding is to provide weekly laboratory session for students to work in small groups on exercises, beginning with unit fractions. An additional component of the laboratory sessions is to have students explain their work in writing. This presentation will report on the success of this approach at a New England state university.

*Kim Rheinlander, Dartmouth College*

**Join the Mathematics Across the Community College Curriculum Project**

Join the MAC^3 project: show students & faculty that mathematics is everywhere & for everyone, reduce math anxiety, support lifelong learning & collaboration and revitalize your teaching. Also included: fresh mountain air in the summer, sunny beaches in the winter and stipends for all! Find out how to get involved!

**Saturday 2:30 – 3:15**

*Linda Misener, Southern Maine Community College*

**Meeting the Challenge of Teaching Discrete Mathematics to the Nonmathematician**

It is often a challenge to teach the topics of Discrete Mathematics to students who have not had a rigorous mathematical background. Often we have to find a side door into this exciting field. For example, Boolean algebra is the study of operations carried out on variables that can only have two values. It is used in the study of both Logic and Sets. In this presentation we will discuss using switches to introduce and explore Boolean Algebra. If time permits we will also explore the use of flowcharts to study sequences, summation and matrices and to strengthen logical and analytical thinking.

*Lois Martin, Massasoit Community College*

**Learn More About the Student Mathematics League and How to Start a Team**

NEMATYC is establishing annual awards to be given to students who have participated in AMATYC's Student Mathematics League (SML). Attend this session to learn more about the SML and how to get a team started at your school. You will have the opportunity to take part in a mock competition. Prizes will be given to the top scorers.

*Steve Krevisky, Middlesex Community College*

**Who Are the Best Sluggers in Red Sox History?**

Using mathematics and statistics, we will see who wins this title, be it Ted Williams, Manny Ramirez, Jimmie Foxx, or someone else? Using Slugging Averages, Runs Batted In, and z scores, we will be able to draw some conclusions about this. Come prepared to argue for your favorite hitter! Audience participation encouraged, and this presentation is intended for teachers of algebra, statistics and quantitative literacy.

## AMATYC Student Mathematics League News

Lois Martin

In the 2004-2005 AMATYC Student Mathematics League competition, the Massasoit Math Team captured the Northeast Regional Championship. In individual competition, Massasoit had four students in the Northeast Region's top 15, with Massasoit dual enrollment student Alexei Popov placing 1st in the Northeast. In June at Massasoit's Honors Convocation, monetary awards, funded by the Massasoit Foundation, were awarded to top team members. At the AMATYC conference in San Diego, AMATYC's Northeast Regional Vice President Jack Keating presented the awards for the top team and top individual in the Northeast region to team moderator Lois Martin.

The competition is divided into 8 regions: the Northeast Region includes New England, New York, and Ontario. New York schools have traditionally dominated the competition, so two consecutive Massasoit victories (2003-2004 and 2004-2005) is truly remarkable.

In its first competition in 1997, the Massasoit team had one member and placed last in the country. After building interest and involvement for several years, Massasoit had twenty-four students participate in the most recent competition.

Several former math team members have gone on to earn degrees in mathematics and returned to Massasoit to teach as adjuncts in the mathematics department. What a pleasure it is to have former students return to become colleagues.

NEMATYC area schools currently participating in SML include Bristol Community College, Middlesex Community College, Mount Wachusett Community College, and Southern Maine Community College. Consider starting, or reviving, a team at your school. We welcome the competition! It's for our students.

**Some of the NEMATYC and MATYCONN attendees at the November 2005 AMATYC Conference in San Diego. You missed a good one!**

Left to right: Judy Carter, North Shore CC, David Ellenbogen, VT, Lois Martin, Massasoit CC, Kerryn Snyder, Massasoit CC, Phil Mahler, Middlesex CC (MA), Jack Keating, Massasoit CC, Curtis Mitchell, Greenfield CC, Anne O'Shea, North Shore CC, Lora Connely, North Shore CC, Marianne Rosato, Massasoit CC

Elaine Previte, Bristol CC, Claire Driscoll, Northeastern, Leroy Jackson, Northeastern University

Catherine Pirri, Paulette Redmond, Jim Sullivan, all from Northern Essex CC

Standing: Joe Karnowski, Norwalk CC, Kathy Bavelas, Manchester CC, Alice Grandgeorge, CT, Roger Loiseau, CT, Ken Takvorian, Mount Wachusett CC, Judy King, NH Tech. Institute, Steve Krevisky, Midddlesex CC (CT), Florence Chambers, Southern Maine CC. Seated: Maureen Woolhouse, Quinsigamond CC, Patricia Bench, Northeastern, Eleanor Collins, Northeastern, Roberta Kieronski, UNH-Manchester, Toni Parise, Southern Maine CC

***President*** *from page 4*

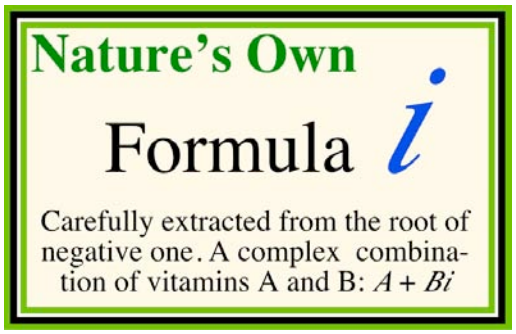
voted to combine their Spring 2006 meeting with ours. Many thanks to MATYCONN President Joe Karnowski and former president Steve Krevisky for continuing to hold conversations with Maureen Woolhouse and myself. Maureen and I have long believed that because New England is so small a region, while we need to grow our membership from within, we also need to build up our NEMATYC affiliate by seeking out new membership from beyond the Massachusetts/Rhode Island/New Hampshire area that forms the core of NEMATYC. So we thank Joe and Steve for their efforts and welcome the MATYCONN members to the NEMATYC family. We look forward to seeing you in April, and we hope this will be the beginning of a long, mutually beneficial relationship for both affiliates.

One last comment regarding the Spring meeting: This will be my last conference and business meeting as NEMATYC president. I want to thank all the Board members for their dedicated work and support for me and NEMATYC during these last two years. Every Board member demonstrates the utmost in professionalism and the deepest enthusiasm for the work that all NEMATYC members do on the job. It has been an honor working with all of you. Thank you again for all the time (and the driving!!) you have done to carry out your duties.

Have a wonderful beginning of 2006 – may it be a perfect semester for you. See you in April!

Elaine A. Previte
NEMATYC President

**Congratulations to our members who are Project ACCCESS fellows, Curtis Mitchell, Greenfield CC, Anne O'Shea, North Shore CC**. Anne has been in the program for two years, and Curtis started his first year at the AMATYC conference. http://www.maa.org/ProjectACCCESS/




**Join NEMATYC!**

Can't attend the conference? We hope you'll support NEMATYC by renewing your membership. Annual dues are $5. Please complete and return with a check for $5 to Lois Martin, NEMATYC Treasurer, 25 Lydon Lane, Kingston, MA 02364

Name _____

Preferred Complete Mailing Address _____

_____

City State Zip

Phone Number _____

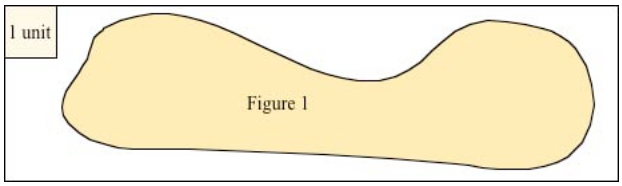
e-mail Address _____

Institution _____

**Join AMATYC, at www.amatyc.org, click on "Get Involved".**

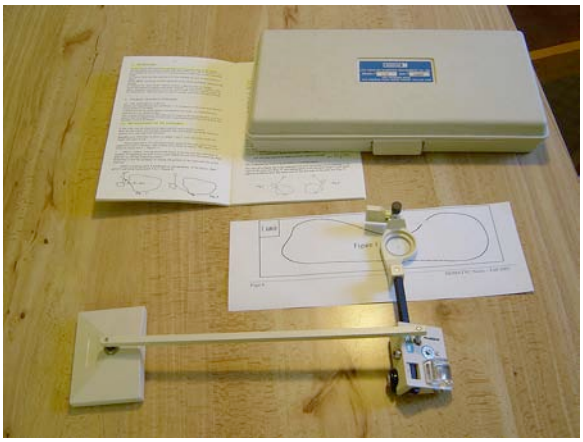
**Problem Follow-up:** In the Fall 2005 the following problem was posed by the editor.

Practical Geometry/Calculus: If the area of the square shown is 1 square unit, what is the approximate area of Figure 1? Prize for the closest answer submitted to the editor, with explanation of how the result was obtained.




SOLUTION

The graphics program with which I created the graphic showed the unit area to be 1506.46 pixels, and of figure 1 to be 32659.25 pixels, so normalizing, the area of figure 1 is 32659.25 ÷ 1506.46 = 21.6795 units. I received one solution that was within 0.25 units, (within about 1%!) done by using a grid and counting squares. That person will receive the prize, a book.

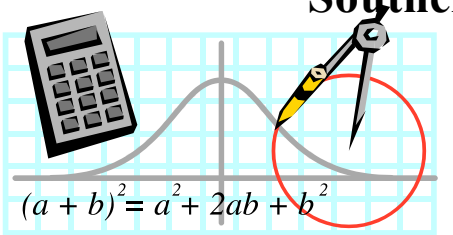


However, the point of this was not the numeric answer, but the point that in the real world, it is hard to find area. Definite integrals just don't do it, but problems like this occur in engineering, surveying, ecological studies and elsewhere. In practice the area is often found using a planimeter, an instrument which has magical powers, and which most math educators have never heard of. A planimeter will accurately find the area of a closed figure by tracing the perimeter! Since it is easy to demonstrate that there is no relation between the perimeter and area of a figure, this may seem mystifying. I bought a polar planimeter recently on E-Bay ($51) but a new one normally sells for several hundred dollars. There is an excellent, very accessible explanation of the planimeter at http://whistleralley.com/planimeter/planimeter.htm. Using mine, I obtained 21.60, a 0.4% error. It wasn't easy and depends on technique, but I probably could have done better with more trials.

P. Mahler

NEMATYC NEWSLETTER
Philip Mahler, Editor
Middlesex Community College
591 Springs Road
Bedford, MA 01730-1197

# NEMATYC 2006
# Building A Better Math Class




**Southern New Hampshire University**

**Manchester, NH**
**Friday and Saturday**
**April 21 – 22, 2006**

Program, registration, and directions are in this newsletter.
Also, check www.nematyc.org for updates.

**JOIN NEMATYC**

Not a member of NEMATYC? We hope you'll join! See page 11.
Better yet, attend the conference this year! You'll have a great time.

# BUILDING A BETTER MATH CLASS

New England Mathematical Association of Two-Year Colleges

## 32nd Annual Meeting - April 21-22, 2006

Southern New Hampshire University, 2500 N. River Road, Manchester, NH 03106

# CONFERENCE REGISTRATION

**SAVE $10 – Conference Registration Form – Mail by April 5th and SAVE $10**

Name _____

Preferred Mailing Address _____

_____

_____

Mail by Wednesday April 5

Phone Number _____

Email Address _____

Institution _____

Are you a presenter? Yes No Will you serve as a presider? Yes No

Attending Friday? Yes No Attending Saturday? Yes No

**Conference Registration Fee and Saturday Meals***

$50 if postmarked by April 5, $60 after deadline and at the door.
$25 for students and adjunct faculty if postmarked by April 5, $35 after deadline and at the door.
Registration fee covers the conference fee, NEMATYC annual dues, and Saturday breakfast and lunch.
**The registration fee will be waived for one presenter per session.*

Saturday lunch choice: Chicken _____ Vegetarian _____
*Note: Registrants after April 5 are not guaranteed lunch, but we'll do our best.* **$ _____**

**Friday Dinner - $20**

**Tour of Zimmerman House - $10**

More details on the dinner and tour on page 6.

**$ _____**

**Total Amount Enclosed $ _____**

**Make checks payable to *SNHU-NEMATYC 2006* and mail registrations to:**

Professor David Cox
Southern New Hampshire University
2500 N. River Road
Manchester, NH 03106

**PLEASE MAIL REGISTRATION FORM BY WEDNESDAY, APRIL 5**

**Questions? Email David Cox at d.cox@snhu.edu**

**Conference Refund Policy**: A refund of 100% of your advanced registration fees less the dues amount will be given upon receipt of a written request postmarked no later than two weeks prior to the conference. A 50% refund less the dues amount will be given if a written request is postmarked within the two weeks prior to the conference. A refund for the Friday night dinner will be given dependent upon restaurant policy. No refunds for non-attendance will be given for requests postmarked after the date of the conference. All request should be sent to the NEMATYC Conference Chairperson. Refunds will be processed approximately four to six weeks after the conference.

Make a copy of this map before you mail in your registration.

Of course you can do all the maps you want online, nowadays.