

NEMATYC NEWS



Vol 19, No 1

Newsletter of the New England Mathematical Association of Two-Year Colleges

Fall, 2010



From the President
Mary Kehoe Moynihan

Greetings!

The NEMATYC Executive Board is immersed in preparation for the 36th AMATYC Annual Conference in Boston on November 11-14, 2010. On September 24th, we had a joint NEMATYC Executive Board/Boston Local Host Committee meeting at Mass Bay Community College in Wellesley. The board asked Jack Keating, Local Events Coordinator, what NEMATYC can do to fulfill our role as host for the AMATYC Conference. Jack said first and foremost we could staff the Internet Café and Hospitality Suite, which will also serve as the Information Desk. Members of the Executive Board and Local Host Committee are signing up for times to staff these locations. If you have time and would like to staff one of these locations, please contact Jack or any Executive Board member. If you're not up for that, we welcome you to stop by and visit with your NEMATYC colleagues. We'll have a raffle, menus from local restaurants, as well as other entertainment.

Continued on page 3

**From Your AMATYC
Northeast Regional
Vice President**
Jane Tanner



NEMATYC Colleagues:

What an exciting time to be teaching mathematics! So many things are happening that it is hard to know where to begin...

A year ago I reported what I did on my summer vacation. This summer was just as productive. In July 2009 I reported that I took part with the "Seattle 15" in a New Life Developmental Math workshop. Last month a few AMATYC members, along with representatives from NADE, NCTM, ASA, the Carnegie Foundation for the Advancement of Teaching, and the Charles A. Dana Center at the University of Texas, Austin, met to further refine the learning outcomes for the new Mathway course "Mathematical Literacy for College Students". This course represents a new way for developmental mathematics students to gain enough basic algebra skills to be successful in a college level liberal arts math course. Eight schools (including three in New York) have been chosen as collaboratory institutions that will help pilot this new course.

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NEMATYC 2011

37th Annual Meeting

R³ AT 4Cs

RELAX, REFRESH, RENEW AT
Cape Cod Community College

West Barnstable, MA
Friday and Saturday
April 29-30, 2011



Mary Moynihan, Chair
Announcement & Call for Presenters Inside




AMATYC
Project ACCESS
Advancing Community College Careers: Education, Scholarship, and Service

is a mentoring and professional development initiative for two-year college mathematics faculty. The project's goal is to provide experiences that will help new faculty become more effective teachers and active members of the broader mathematical community.

NEMATYC 2011

R³ at 4Cs

Relax, Refresh, Renew. at Cape Cod Community College

Cape Cod Community College is honored to host the 2011 NEMATYC Conference on April 29th and 30th. You'll find a call for presenters in this newsletter.

Come and enjoy Cape Cod in the spring! Participants can stay at the Corsairs and Cross Rip Oceanfront Resorts (<http://www.corsaircrossrip.com/>). The Corsairs and Cross Rip are classic Cape Cod hotels side by side on the beach in Dennisport. Definitely take a minute and check out the website. Many of us stayed there for the 2008 AMATYC Statistics Institute and the 2009 AMATYC BC Workshop.



NEMATYC EXECUTIVE COMMITTEE Spring 2010 - Spring 2011

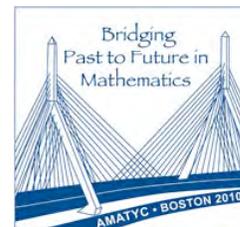
| | | |
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From the President— continued from page 1

Many members of the Local Host Committee will be wearing red shirts and/or tri-corner colonial hats. We plan to have pins for our NEMATYC members so that participants will know you live in the New England region. I realize you may not know the Copley area of Boston extremely well, but you can help colleagues from other areas of the country. You definitely can direct them to our Hospitality Suite. So, please ask a Local Host Committee member for a pin or stop by the Hospitality Suite to grab one (and visit)!

I hope to see many of you at AMATYC. I know travel funds have been scarce the past couple of years. Having the conference in Boston gives us all the opportunity to get to at least one day of the conference at a small fraction of the normal cost. It's exciting to be surrounded by so many people who are passionate about mathematics and teaching. And it's a great opportunity to get some ideas for energizing your classes. I happen to be giving two presentations myself, and undoubtedly you'll see other NEMATYC colleagues on the program.

We'll all take a deep breath with a slow exhale when AMATYC Boston ends, then begin gearing up for our local conference, held April 29 and 30 at Cape Cod Community College. I hope you will come and consider presenting. While some amazing new mathematical discovery is always welcome, many of us are equally interested in a day to day strategy/idea that improves your class. My best friend at CCCC always said that if he came away from a conference with an idea that he actually used in a class, then it had been a good conference. I totally agree!



Hope to see many of you in Boston and the rest of you at Cape Cod Community College in the spring.

Mary Moynihan
NEMATYC President
Cape Cod Community College

From the Regional VP – continued from page 1

Statway, a new pathway that allows students to complete a beginning algebra and a transferable statistics course in one year, is a little further along with piloting. Nineteen colleges (including four in Connecticut) are implementing material that has been developed. More information about Mathway and Statway can be found at <http://www.carnegiefoundation.org/problem-solving/developmental-math>.

Another exciting thing that is coming Spring 2011 is a webinar that is FREE to AMATYC members. This will be presented by the Research in Mathematics Education for Two-Year Colleges Committee and Scottsdale CC (AZ). This will be a nice follow-up to the symposium on connecting research to mathematics in two-year college mathematics that the committee will be hosting at the 2010 AMATYC Conference.



It is hard to believe that it took me this long to mention something about the conference. I bet your bags are already packed for AMATYC's conference "Bridging Past to Future in Mathematics" that is being held on November 11-14 right here in the middle of NEMATYC – Boston, here we come! Jack Keating and the local events committee have been working hard to organize a conference that will be second to none! I am so excited to come to Boston again. Let me be the first to thank all of you for your hard work in putting on the best conference ever!

Just in case you haven't heard, Thursday's keynote speaker will be Javier Gomez-Calderon talking on a mathematical treasure – polynomials. Saturday's breakfast keynote is "Infinity Bottles of Beer on the Wall" by Lew Lefton. His business card states "He's funny and he can prove it." These two topics are definitely intriguing!

Since this conference is so close, please take the time to encourage students and adjunct instructors to attend. If you have attended the annual conference before, you know that it is a great place to network with others interested in mathematics instruction as well as attend great sessions on a variety of topics.

One important part of AMATYC is the AMATYC Foundation. This foundation works hand in hand with AMATYC to support the mission and goals of the organization. A fund-raising campaign started in August and will continue at the conference. Be sure to find out about the foundation raffle—if you make a contribution, not only will you support AMATYC's goals, you will be entered to win a very desirable prize.



At the end of the Boston conference, AMATYC will have a new Statistics Committee. Statistics has been a subcommittee of the Mathematics Intensive/College Mathematics Committee. Because of its strong membership, the AMATYC Board voted to make it a committee earlier this year. If you are interested in the statistics area, be sure to go to <http://www.amatyc.org/committees/> after the conference to get more information.

I know that you will be inspired after attending the Boston conference. You will have met a lot of new people and have attended many presentations. This means you will want to attend the next conference which will be held November 10-13, 2011 in Austin, Texas. Be sure to start working on your presentation as all proposals to present (and preside) will be due February 1, 2011. You will find more information about this conference at www.amatyc.org soon.



Do you know someone who has made outstanding contributions to mathematics or mathematics education at a two-year college? Consider nominating him or her for the Teaching Excellence (TE) Award. More information and the nomination form are available at <http://www.amatyc.org/awards/TeachingExcellence/>. The deadline for applications is December 6, 2010.

AMATYC is currently searching for individuals to fill two important positions: Executive Director and Professional Development Coordinator. The Executive Director, a new paid position, is responsible for representing AMATYC at various meetings, collabo-

rating with other executive directors of similar organizations, as well as implementing activities that have Board support. The Professional Development Coordinator will work with a committee of the AMATYC to develop opportunities for professional development for members. More information about these positions is available at www.amatyc.org.

With all the benefits of membership, I am sure that you are already an AMATYC member. But, if you learn of someone who isn't, be sure to send them to <http://www.amatyc.org/Join-AMATYC/> for more information and a membership form. The AMATYC Office

has new phone numbers. If you need to call the office, call 901-333-6243 or 901-333-6251 (fax). You may also send an email to amatyc@amatyc.org. Beverly, Christine and Christy are always very glad to assist you in whatever you need.

I hope to see you all in Boston in November. Have a good semester and remember that if you have any questions or input, get in touch with me! I am YOUR representative on AMATYC's Executive Board.

Jane

Have you heard about Wolfram|Alpha? <http://www.wolframalpha.com> <<http://www.wolframalpha.com>> If not, take a look at what is available to anyone, including our students, to use on-line. It will show the steps you might use to solve a linear or quadratic equation, even literal equations. Enter "solve $15x-A=9x+B$ for x " for example. Then ask it "who was leonhard euler?"

CALL FOR NOMINATIONS

Do you like getting together and having a good time with a great group of people? Are you a mathematics educator? If so, then NEMATYC is the group for you and the NEMATYC Executive Committee wants you to join our enthusiastic, friendly group.

Every year, NEMATYC holds elections for open positions during the business meeting at the annual conference that is held in April. For 2011 the positions that will be available are Vice President and two Executive Committee at-large positions.

We are looking for you to help us fill these roles. Working with our Board is a rewarding and fun experience, and is a wonderful way to put your professional dedication into action! It's great for you, your department and college, and the New England mathematics community. We would love to be able to say that every one of our member colleges has a representative on the Board.

The time commitment includes attending the annual conference (which hopefully you would attend anyway) and Board meetings that occur three times per year. These meetings are typically held in September, January, and June.

Here is a brief overview of the available positions (see the Constitution at www.NEMATYC.org for a more detailed description of each position).

Vice-President

- One-year term
- Conducts meetings and fulfills the obligations of the President if the President cannot
- Assumes Presidency if the President is unable to continue in office

At-Large Member (there are 2 positions)

- Two-year term
- Attend Board meetings
- Perform duties as assigned by the President
- *A great way to get involved with the Board!!*

Please contact Past President **CAROL HENRY** at henryc@middlesex.mass.edu should you wish to place your name – or that of a colleague – into nomination!

JOIN NEMATYC

Not a member of NEMATYC?
Join by sending the \$10.00 annual membership fee, payable to NEMATYC, to

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

HELP WANTED

You may know that the annual national AMATYC conference comes to Boston November 11-14, 2010! I am the Local Events Coordinator, and chances are I could use your help!

Boston - November 11-14, 2010

We will be stuffing registrant bags, organizing and staffing a hospitality room, being available to provide local information, helping the staff run errands at the meeting, and generally being around to answer participant questions and help solve their problems.

If you think you'll be able to help in Boston, please e-mail me to that effect. We did it in 1993, and I can tell you, it's a lot of fun!

Jack Keating
Local Arrangements Coordinator
JKeating@massasoit.mass.edu



News from our Campuses and Colleagues

Greenfield Community College

You know what the Rubik's Cube is. How long would it take you to solve a randomized cube? Our mathematics department colleague **Ian Winokur** can generally solve one in under 20 seconds! See the article on Speedcubing.

Massachusetts Maritime Academy

Frank P. Battles has retired from after 40 years of service. Frank was a long-time editor of the newsletter of the Northeast Section of the MAA, and the Fall program includes a talk named in his honor, the Frank Battles lecture. Frank has been a long time member of NEMATYC.

Massasoit Community College

Mary Sullivan will conduct a hands-on workshop on open textbooks on October 12 at Massasoit's Brockton campus. Open textbooks are free for students to read online and are customizable by the instructor. She will talk about how open textbooks are created, sources of open textbooks, copyright and accessibility issues, and the peer-review process. She will also share her experiences using "Collaborative Statistics," an open statistics textbook located at Rice University's open textbook repository (Connexions). During the second half of the workshop participants will have a chance to search through different textbook repositories to find textbooks in their disciplines.

Middlesex Community College

The department is using information from presentations at AMATYC's annual meeting last year in Las Vegas to build on an institutional commitment to significantly improve student success in our developmental mathematics courses. The department is moving to replace its three lowest level developmental courses by a system of modules, presented via mediated learning on dedicated computers. Each course will cover certain modules, and students will be able to test out of required modules. It is hoped that the benefits of carefully monitored, self-paced instruction will achieve its goals. The impetus to do this is in fact reports of very good success at other institutions, as reported in Las Vegas. The effort is called Ramp-up, and the implementation team is **Joanna Delmonaco, Bert Engval, Carol Hay, and Mike Williamson**.

Emerson College

Eiki Satake has a textbook contract for "Statistical Methods and Reasoning for the Clinical Sciences", with the Plural Publishing Inc, San Diego, CA; his short article, entitled "Moving Forward to Evidence-Based Statistics: What prevents us?", appeared on the Journal of Clinical Trials, and Eiki will conduct a Short Course, entitled "Scientific Literacy and Practice", at the annual American Speech- Language Hearing Association Convention in November, held in Philadelphia, PA.

Quinsigamond Community College

Maureen Woolhouse reports on some of what this campus is doing. This summer QCC ran a special one week Math Boot Camp which was funded by a grant. The focus of the Camp was to attempt to boost the CPT scores of the approximately 20 attending students. This pilot project had as an intended goal the reduction in the number of developmental math courses these students would have been required to take by at least one. This goal of reducing the number of preparatory math courses has also been espoused by the AMATYC Developmental Mathematics Committee headed by **Jack Rotman**. The pilot program was enormously successful in achieving its goals. Here is a sampling of the results: 93% increased their score (13/14), 71% advanced at least one level of dev math (10/14), 7% advanced two levels (3/14), 29% stayed at the Basic Mathematics level. It is hoped that the College will institutionalize this CPT prep course and offer it several times during the summer as well as during intersession.

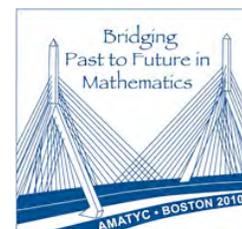
The **AMATYC Conference** this year is
November 11 - 14 in **BOSTON!**

Would you have a great time, meet interesting colleagues, get
new ideas for your curriculum and teaching, and generally get
your batteries recharged?

Are you kidding? It's an AMATYC conference!

YOU CAN BET ON IT!

Register at www.amatyc.org.



“If there is danger to the status of mathematics, it does not arise from overemphasis of its ‘reasonableness.’ It comes from the deadly overemphasis on routine ‘techniques,’ and the unwholesome neglect of its ‘reasonableness’ and of its ‘relevance’ to the real world.”

Who said this, and when? See the bottom of page 10.

NEMATYC Student Mathematics League
 Coordinator Report
 Fall 2010
 Lois Martin

NEMATYC SML RECOGNITION AWARD PROGRAM

The Award Program was established to foster extracurricular mathematics learning opportunities for students through participation in the AMATYC Student Math League. The first awards were given in Spring 2007. Current policy is to give a \$100 award to the top-scoring student from each participating school in NEMATYC'S SERVICE AREA (MA, ME, NH, RI, VT). The winning student from each school must have taken both tests administered in the given year.

2009-2010 NEMATYC award winners

| COLLEGE | STUDENT |
|-----------------------------------|---------------------|
| Bristol CC | Matthew Silva |
| Cape Cod CC | Morgan Opie |
| Greenfield CC | Zachary Brians |
| Holyoke CC | Greg Kaminsky |
| Massasoit CC | Heather Bond-Beeloo |
| Middlesex CC | Jasmin Patel |
| Mount Wachusett CC | Aryoung Choi |
| NHTI: Concord's Community College | Rudra Timsina |
| North Shore CC | Giang Nguyen |
| Springfield Technical CC | Travis Taft |
| Southern Maine CC | Yulia Goltsova |

Last year we welcomed two new NEMATYC area teams to our competition, and they both did very well. Congratulations to NHTI: Concord's Community College and Greenfield Community College on their very successful first year of competition, and welcome back for a second year!

Northeast Region Team Standings (top 17) 2009-2010

| | | |
|----|-----------------------------------|----|
| 4 | NHTI: Concord's Community College | NH |
| 7 | Massasoit CC | MA |
| 8 | Greenfield CC | MA |
| 9 | Springfield Technical CC | MA |
| 10 | Southern Maine CC | ME |
| 11 | Middlesex CC | MA |
| 12 | North Shore CC | MA |
| 13 | Holyoke CC | MA |
| 14 | Bristol CC | MA |
| 15 | Cape Cod CC | MA |
| 16 | Mount Wachusett CC | MA |

Northeast Region Individual Standings (top 20) 2009-2010

| | | | | |
|---------|------------------|---|-----------------------------------|----|
| 3 | Zachary Brians | M | Greenfield CC | MA |
| 6 | Yulia Goltsova | F | Southern Maine CC | ME |
| 9(tie) | Giang Nguyen | F | North Shore CC | MA |
| 13 | Rudra Timsina | M | NHTI: Concord's Community College | NH |
| 16(tie) | Nicholas Fegley | M | NHTI: Concord's Community College | NH |
| 19 | Gregory Kaminsky | M | Holyoke CC | MA |
| 20(tie) | Samuel Otero | M | Holyoke CC | MA |

JOIN US!

- If you are overwhelmed by the idea, enlist the help of a colleague.
- Co-moderators have worked well at many schools.
- Talk with a moderator from another school about how they got started.

FALL 2010 ROUND ONE COMPETITION

The test is scheduled to be given October 15-30. The Registration deadline was September 30.

HOW CAN YOU START A MATH TEAM AND JOIN THE COMPETITION?

- **Recruit students**
 - Your best classroom students will not necessarily be your top team scorers.
 - Ability to “think outside the box” is crucial.
 - Personal contact works best.
 - If you are teaching Calculus/Precalculus, offer rewards/bribes.
 - Use old test questions to review concepts at the beginning of class
 - Function notation
 - Trig identities
 - Equation of a line
 - **Old Tests are Available Online at <http://sml.nematyc.info/> .**
 - Talk with your student tutors.
 - Enlist the help of your colleagues in identifying potential participants.
- **Help students organize a campus mathematics club.**
- **Ask your Administration or Foundation for some financial support.**
- **Advertize and hold pre-test study sessions.**
 - Provide food and/or prizes.
 - Use old test questions for practice.
 - Do a session on statistics/probability, topics often found on tests and rarely included in algebra/calculus sequences.
 - Practice test-taking techniques (multiple choice with penalty for wrong answer)
 - Practice using graphing calculator without keyboard (when and which functions)

WHO COMPETES AND WHO ARE THE MODERATORS?

| School | State | Moderator | Position |
|-----------------------------------|-------|--|--|
| Bristol CC | MA | Susan Hoy | Faculty |
| Cape Cod CC | MA | George Bent | Faculty |
| Greenfield CC | MA | Ian Winokur | Faculty |
| Holyoke CC | MA | Aaron Levin | Faculty |
| Massasoit CC | MA | Kerry Snyder Aziza Hina | Coordinator of math tutoring services Faculty |
| Middlesex CC | MA | Dora Ottoriano | Faculty |
| Mount Wachusett CC | MA | Bonnie Wicklund | Math Coordinator, Academic Support Center |
| NHTI: Concord’s Community College | NH | Dan Shagena | Faculty |
| North Shore CC | MA | Judy Carter | Faculty |
| Springfield Technical CC | MA | Lauren Brewer | Faculty |
| Southern Maine CC | ME | Linda Misener | Faculty |

Don’t expect to be competitive nationally in your first attempt!.... or second...or third. Strive to be first in the Northeast Region, NEMATYC service area, your state. These are achievable goals! **Don’ t lose sight of the forest for the trees!**

PERSONAL NOTE In 1998, after Round One competition and my first attempt with a team (one participant) at Massasoit CC, the team had placed last in the country. Dismayed and discouraged, I emailed Glenn Smith, the AMATYC SML Coordinator at that time. His response: “You are definitely not last in the country. All of those colleges which did not compete are all tied for last. You are miles ahead of them.”

MBCC, we issued you a challenge at last year’s NEMATYC, hosted by your college. Your President publicly pledged support.

QCC, we need you!

GCC and Massasoit are having a friendly competition. GCC’s President, Bob Pura, is a former Massasoit administrator, and Massasoit’s President, Charlie Wall, is a former GCC President. Both are enthusiastic supporters of the SML competition and their respective mathematics departments.

<http://www.wimp.com/mathemagicland/>



NEMATYC Conference 40, 30, 20, 10, Years, and 1 Year, Ago



NEMATYC 1971 In 1971 NEMATYC did not yet exist but it's parent MMATYC (Massachusetts...) organization did. **Frank Deane** of Berkshire Community College was its president. **Amy West, Joan McGowen,** and Herb Gross (a founder of AMATYC) were leaders among the activists. The active participation of **Joe Menard** of the Community College of Rhode Island would lead to changing "Massachusetts" to "New England", in 1974.

NEMATYC 1981 was hosted by Manchester Community College, Manchester CT on Saturday March 28. **Josephine Gervase** of MCC chaired the planning committee, and the theme was "Mathematics for the 80s - Promises and Challenges". A keynote address was given by **John Neff** of Georgia Institute of Technology, entitled "Mathematics in Action - An Overview". There were 89 in attendance and the presentations were: *Computer Workshop, Reentry Mathematics And The Non-Traditional Student, Statewide Competency Testing, Precalculus In A Large Lecture - Possible And Fun,* a panel discussing *Publishing And The Professor - Why Write A Math Book, and Self-Paced Learning Systems For Basic Math And Elementary Algebra.*

NEMATYC 1991 was held at Massasoit Community College on Saturday March 9. NEMATYC President was **John Jacobs,** Mass Bay Community College and Vice President was **Jack Keating** of Massasoit. The theme was "Mathematics for the Nineties". **Herb Gross** of Bunker Hill Community College gave a keynote "the Teacher as a Coach", and **Dick Aufmann,** author, gave a luncheon talk "Why Take Algebra?". A sampling of the many (22) talks is *A Comprehensive Learning Environment for Essential Mathematics, A Computerized Introductory-Level Statistics Course, Baseball Statistics, Careful Changes in Calculus, Critical Thinking in Liberal Arts Mathematics for the Non Math/Science Student, Euclidean Algorithms: Picturing the Effort, Sets, Graphs, and Finite Automata, Who Takes Developmental/Remedial Mathematics in College?*. In addition to publishers etc there were 114 in attendance.

NEMATYC 2001 was held at Middlesex Community College on Friday and Saturday, April 20 and 21. Vice president was **Maureen Woolhouse** of Middlesex Community College, and the Conference Chairpersons were **Carol Hay** and **Maureen Woolhouse** of Middlesex. Friday evening included a visit to the Boott Mill National Park, a trolley ride to the hotel, and an after dinner talk by **Audrey Ambrosino** of Historical Lowell. After lunch on Saturday Robert Devaney of Boston University talked about "Chaos Games and Fractal Images". The 29 presentations included *Math Processes for Engineering, Portfolios and Projects for Developmental Math Students, Practical Application Problems Integrated into Introductory Algebra, Sharing Ways to Improve the Life of the Migrant Worker (adjuncts faculty), Fibonacci Vectors, An Odyssey in Number Theory to Forge Connections, Comparing the Community College's Acuplacer Computer Placement Test (CPT) to the MCAS Test, When Students Ask, "When Am I Ever Going to Use This?," Inverse Probability; Simplification of The Bayes' Rule*

1 YEAR AGO - NEMATYC 2010

NEMATYC 2010 was held at MassBay Community College, Wellesley, MA on Friday and Saturday, April 9, 10, 2010. The conference had been held at MassBay in 1979 and 1990 also. The theme was "Connections". The conference chair was **Meredith Watts** of Mass-Bay. Besides a great program, attendees heard **Matthew Haas,** Corning Community College after dinner on Friday evening talk about "The Re-Funification of Math", and **Jay Lehmann,** textbook author, after Saturday lunch talk about "Don't believe Everything you Hear". Some pictures from the meeting...



Dave Henry, Bristol, **Carol Henry,** Middlesex, **Lois Martin** and **Cliff Martin,** Massasoit, **Gary Tataronis,** New England College of Pharmacy



Joseph Manthey, Saint Joseph College, talks about *The Controversial Nature of Elementary Statistics*



Friday evening speaker **Matthew Haas**, Corning Community College, speaks on *The Re-Funification of Math*



Susan McCourt, Bristol, **Rick Butteerworth**, NEMATYC webmaster, Massasoit, **Lynne DeSantis**, Hesser, **Bob Cantin**, MassBay, At-large Executive Cmt member, and **Steve Krevisky**, Middlesex (CT)



Meridith Watts, MassBay, Conference Chair, **Carole Berotte Joseph**, President of MassBay Community College, and **Carol Henry**, Middlesex, NEMATYC President



Jack Keating, Massasoit, displays a choice of red shirts to be worn by NEMATYC volunteers at AMATYC 2011 in Boston



Bob Cantin, MassBay, conducts the raffle.



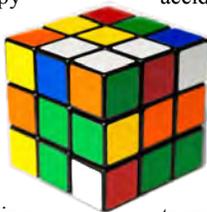
Pearson representatives; also represented were **ACTEX**, **Cengage Learning**, **Hawkes Learning**, **McGraw-Hill**, **TechSmith** and **Thinkwell**

Consider giving credit in your course for students who participate in the Student Math League. Would you say that the following two problems promote mathematical growth regardless of what course the student is in?

1. The equation $a^4 + b^3 + c^2 = 2009$ (a, b, c positive integers) has a solution in which a and b are both perfect squares. Find $a + b + c$. [From the Fall 2009 SML test.]
2. A flea jumps clockwise around a clock starting at 12. The flea first jumps one number to 1, then two numbers to 3, then three to 6, then two to 8, then one to 9, then two, then three, etc. What number does the flea land on at his 2008th jump? [From the Fall 2008 SML test.]

Speedcubing

I discovered speedcubing (the art of solving the Rubik's Cube quickly) by happy accident. It was February 2003 and one evening I stumbled upon a website that professed to have a method of solving any Rubik's Cube. I was a non-believer. You had to be a genius to solve a Rubik's Cube, no? Sure...I had a cube back in the 80s like everyone else and, like everyone else, I peeled off the stickers after hours of futility spent trying to restore the cube to a state of monochromatic bliss.



The website piqued my curiosity so I went out and bought a Rubik's Cube the next day. I went back to the website and, after an hour and a half of fumbling through the algorithms (sequences of turns that are designed to move a small number of pieces on the cube while leaving most of the cube unaffected), I was amazed that I was holding a solved Rubik's Cube! I scrambled it again and I was hooked.

After A LOT of practice, I've gotten my average solve time down to about 18 seconds with a best average in competition (yes, there are Rubik's Cube competitions!) of 16.53 seconds. At one point this put me solidly in the top 100 in the world! In order to get fast, one needs to memorize an efficient system for solving the cube (the Fridrich Method is the most popular system; it's named after its inventor, Jessica Fridrich, an engineering professor at SUNY Binghamton in upstate New York) and practice to the point where the algorithms can be performed quickly and fluidly.

Competitions now include many other "twisty puzzles" including the Pyraminx (a pyramid shaped puzzle), the Megaminx (a dodecahedron), and cubes of size $2 \times 2 \times 2$ through $7 \times 7 \times 7$. Cubers also compete in the traditional Rubik's Cube in non-traditional ways: solving it one handed, blindfolded, and even with feet.

There are some websites below that can serve as starting points for your journey into the world of speedcubing. You'll find links to a beginner's solution method, a video of me solving at a tournament at Rutgers University, a video of the world record holder, Feliks Zemdegs, a 14 year old from Australia, and information about an upcoming tournament at MIT on November 13 (it's free for spectators so come on by and be sure to introduce yourself!).

<http://peter.stillhq.com/jasmine/rubikscubesolution.html>
<http://strangepuzzle.com/download.php?videoName=3x3x3%20IanWinokur%2016.93.mov>
<http://www.youtube.com/watch?v=Sa8owbBOvmQ>
<http://mit.edu/cubeclub/#/compete>

Ian Winokur
 Professor of Mathematics, AMATYC Student Math League Moderator
 Greenfield Community College
 Greenfield, Massachusetts

Visit the NEMATYC website!

Webmaster **Rick Butterworth** maintains the NEMATYC website. Go to <http://www.nematyc.org> and browse the links: Conference, Executive Board, Membership, On-line Newsletters, Member Colleges, Mathematics Associations, History, Documents, Job Opportunities, E-mail for NEMATYC.



1. $e^{i\pi}$ (a) equals -1 (b) equals $-\pi$ (c) is approximately 0. 207879576... (d) equals $\frac{e}{\pi}$

2. i^i (a) equals -1 (b) equals $-\pi$ (c) is approximately 0. 207879576... (d) equals $\frac{e}{\pi}$

*Early Decision:
January 13, 2011*

R3 AT 4Cs

Cape cod Community College – West Barnstable, MA
**Friday and Saturday
April 29-10, 2011**

Suggested themes: Teaching techniques, curriculum changes/development, distance education, assessment, using tablet pc's, modeling data, connecting with students, or any other you feel is relevant to math education for the first two years of college.

Presenter(s) _____

*** Note the registration fee for ONE presenter per presentation will be waived. Please specify which one if there are multiple presenters. ***

Contact information:

College or affiliation _____ Telephone _____

Address _____ This is College Home
Supply preferred contact address

E-mail _____

Time preference: Please indicate a first and second choice.

___ Friday afternoon ___ Saturday Morning ___ Saturday Afternoon ___ No Preference

Length of presentation: ___ 45 Minutes ___ 90 Minutes

Presentation Title: _____

Abstract: _____

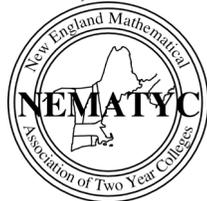
Equipment/technology needs: _____

Workshops, short seminars, discussion panels and poster sessions are encouraged. If you need additional information or have any questions, please call Mary Moynihan, 1-508-362-2131, or email mmoynihan@cape.edu

Proposal Early Decision Deadline: Thursday, January 13, 2011

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| <p>Mail to: Mary Kehoe Moynihan Mathematics Department 2240 Iyannough Road West Barnstable, MA 02668</p> | <p>Email submissions preferred. Please include all the above information. mmoynihan@capecod.edu If you haven't received a confirmation email within 24 hours of submission please call Miss Pat Phelan at 508-362-2131 x4363</p> |
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Philip Mahler, Editor
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Mary Kehoe Moynihan, Chair

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