

New Jersey Mathematics Coalition

Newsletter

Volume VI Number 1

March 1997

New Jersey Mathematics Curriculum Framework:

It's Finished!

by Joseph G. Rosenstein

By now, each public school in New Jersey should have received two copies of the *New Jersey Mathematics Curriculum Framework*, one sent to its principal and the other to its "mathematics coordinator". If you haven't seen it yet, ask your principal for it, or find out who got the other copy from the person who handles the mail in your school. The New Jersey Department of Education is also arranging to send each private and parochial school a copy of the *Framework*. These copies of the *Framework* are all unbound and on three-holed paper, so as to facilitate dividing, copying, and sharing the document among all the teachers in the school. Some individual copies will be available from the Coalition, and the entire *Framework* will soon be available on the Coalition's Web page at http://dimacs.rutgers.edu/nj_math_coalition/. (See page 6 for a meeting announcement concerning "The *Framework* on the Web".)

It is our hope that each school will use the *Framework* to develop curricula incorporating New Jersey's Mathematics Standards, and which will embody the goal of preparing all students to meet the mathematical challenges they will face in their education, careers, and lives. Moreover, we hope that each school will make use of the *Framework* as a professional development resource, with regular staff development based on discussion and implementation of the recommendations and activities in the *Framework*.

It was my pleasure to present the *Framework* to the New Jersey State Board of Education at its January 8 meeting. The document was well received by Commissioner Leo Klagholz and the Board, and is being regarded as a model for curriculum frameworks that the Department of Education is preparing for other content areas. (A proclamation by the Governor marking the occasion

(continued on page 6)

In This Issue:

by Warren D. Crown

Well, we are really starting to see word of the Core Curriculum Content Standards spread throughout the state. Teachers are talking about them, administrators are talking about them, parents are talking about them, newspaper reporters are writing about them, and state legislators are discussing them on the floor of the legislature. And now, with the publication of the *New Jersey Mathematics Curriculum Framework*, we find the Governor holding up a copy in the middle of her State of the State address!

Read all about the reception of these documents in this issue of the Newsletter. Joe Rosenstein describes the final stages of development of the Framework and plans for next steps in his article on this page. A great highlight excerpted from the Governor's address, in which she shows herself to be pretty good in probability, is on page 6. On page 7 is her proclamation that officially releases the document to the teachers of the state.

The adoption of the standards and publication of the *Framework* have also raised the general level of mathematics education activity in the state and much of the rest of the content of this issue is devoted to letting you know what's coming up. From our annual invitation to plan an MSTM event, to a solicitation for participants for this year's Standards Dissemination Project (focusing on grades 5 - 8), to announcements of institutes of all sorts, the Graphing Calculator Conference, and a new program at Jersey City State, there is certainly no shortage of opportunities for you to get involved and contribute to the improvement of mathematics education in New Jersey.



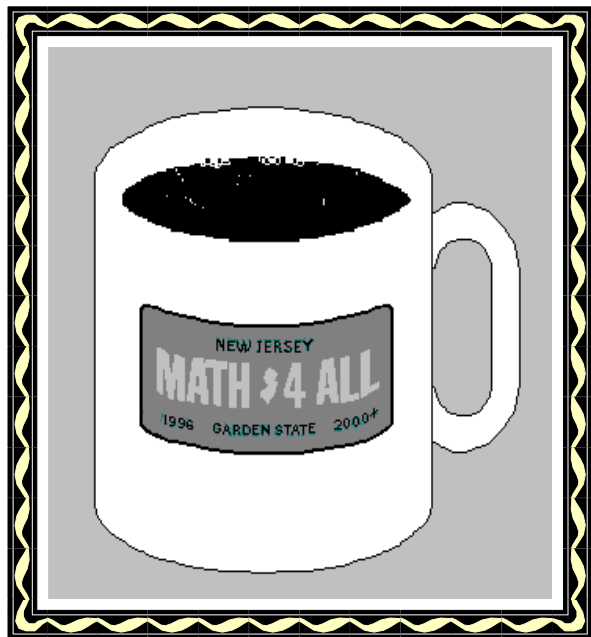
BECOME AN AFFILIATE TODAY!**For \$25 You Can Help Us Implement Our Programs**

Now that the Core Curriculum Content Standards have been adopted, we must work to increase public awareness of our efforts to improve mathematics education, and more importantly, we must continue to help teachers, schools and districts implement the standards.

The Coalition needs your help to reach out to parents, business, and public policy makers, and to help implement the standards.

Become an Affiliate of the New Jersey Mathematics Coalition today! For a \$25 donation you will be enabling your Coalition to accomplish these valuable tasks. Along with the knowledge that you are helping to improve mathematics education in New Jersey you will receive an attractive white mug with the distinctive blue Coalition license plate logo. These mugs will not be reordered, and they are only available on a first come first served basis.

Please join us in these important efforts. Just check off the AFFILIATION box on the response form on page 11 and send us a check today.



**New Jersey
Mathematics Coalition
NEWSLETTER**



Opinions in signed articles are those of the authors and do not necessarily reflect positions of the New Jersey Mathematics Coalition. Readers are invited to submit responses to these (or other) articles. We encourage you to submit articles for future issues of the newsletter on topics that would be of interest to our readers.



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Correction to the Framework: We regret that Robert Eckert of the Linden Public Schools was not acknowledged in the *New Jersey Mathematics Curriculum Framework*. His time and effort, like all of those who participated in the creation and review of the document, is greatly appreciated.

Coalition Receives Year 2 Funding for Standards Dissemination Project

5th-8th Grade Teachers, You Can Participate!

by Peter Sobel

With the adoption of *New Jersey Core Curriculum Content Standards* by the State Board of Education in May 1996 and the publishing of the *New Jersey Mathematics Curriculum Framework* in January 1997, the focus of educators around the state will shift from discussions of what students should “know and be able to do” to the creation of professional development programs aimed at enabling teachers to deliver the new, more challenging curriculum.

Believing that the *New Jersey Mathematics Curriculum Framework* can be a valuable professional development tool for teachers of K-12 mathematics, the Coalition has designed a three-year project to establish a cadre of sixty mathematics educators who will prepare and perform workshops based on the *Framework*. Phase 1 of the *Teaching the Teacher Trainers (T3) Project*, a K-4 institute, took place during the summer of 1996 with the generous support of Johnson & Johnson. Twenty teachers were trained and delivered workshops to hundreds of teachers from throughout New Jersey over the past several months. Based on the success of Phase 1 of the project, Johnson & Johnson has agreed to fund Phase 2, a 5th-8th grade institute, during the summer of 1997.

The Program

In each of its three years, the *Training the Teacher Trainers (T3) Project* will recruit four staff members and twenty participants for an intensive two-week summer training and development institute focused on a particular grade-level span. Participants will review the *Framework*, will research and model the best approaches to professional development workshops in general and the various areas of mathematics specifically, and will create teacher workshops on particular standards and groups of standards. The institute participants will then, individually and in small groups, provide teacher training to teachers both within and outside of their own districts in those areas in which they have enhanced their own expertise. The outreach efforts will begin to take place at the end of the summer of each particular institute and will continue throughout the next several years.

Participants will be paid a stipend for their time spent in the summer institute and will be paid fees for their professional development efforts thereafter.

How to Get Involved

Potential participants in Phase 2 of the institutes are teachers who have a good bit of experience with the NCTM standards at the 5th-8th grade level and a familiarity with the New Jersey standards. They should be curriculum leaders in their schools or districts, and used to sharing their innovative teaching approaches and good ideas with their colleagues.

Staff members are experienced teacher trainers who have conducted successful mathematics workshops and more generic teacher workshops for several years. They may be in teaching or supervisory positions in schools or employed in some other capacity that frequently allows them to work with mathematics teachers.

If you would like to be a participant, please let us know by checking off the appropriate box on the response form on page 11. You will receive an application form in the mail in early Spring. We will be making other solicitations for participants, but you can be first on the list if you respond to this initial announcement.

Visit the Coalition's Home Page On the World Wide Web

http://dimacs.rutgers.edu/nj_math_coalition/

The New Jersey Mathematics Standards and
Curriculum Framework,

Math, Science, and Technology Month '97,

The Coalition Parents' Guide,

Valuable math-ed links, ...and much, much more



Spring Workshops on the Standards for K-8 Teachers

The New Jersey Statewide Systemic Initiative (NJ SSI) has decided to fund a series of standards-based workshops for New Jersey K-8 teachers of science and mathematics which will take place this spring. NJ SSI has asked the New Jersey Mathematics Coalition to organize the mathematics workshops. As of the deadline of this Newsletter, dates, times, and locations of these workshops have not yet been determined. As a result of NJ SSI funding, the cost to participants will be approximately \$15 per workshop, covering materials and refreshments. If you would like to receive further information, please call Debbie Toti at 908/445-3484 as soon as you receive this Newsletter. (For information about the science workshops, please call Michelle Ruetsch at 908/445-2241.)

The New Jersey Mathematics Coalition is offering to provide a speaker who will come to your PTA or PTO, School Board or community meeting and talk about

“Mathematics to Prepare Our Children for the 21st Century”

The title of this presentation is also the title of a guide for New Jersey parents, published by the Coalition, which discusses the vision and recommendations of New Jersey’s newly adopted Mathematics Standards and current efforts to implement the standards. The presentation lasts for 30 minutes and is free.

If your Board of Education, PTA or other civic group is interested, please check off the PRESENTATION box on the Response Form on page 11.

STANDARDS IN-DISTRICT WORKSHOPS

The Coalition has developed a database of workshop leaders who are available to give in-service workshops based on the *New Jersey Mathematics Standards*. Access to this database will be provided to districts which affiliate with the Coalition. Contact Peter Sobel at (908) 445-2894 or e-mail sobel@dimacs.rutgers.edu for more information.

SUMMER REGIONAL WORKSHOPS ON THE STANDARDS FOR K - 4 and 5 - 8 TEACHERS

Workshops on the *New Jersey Mathematics Standards* will be given in August by workshop leaders from the Standards Dissemination Project. K-4 workshops will be held from June 30 through July 3 at both Academy Central (Edison) and Academy South (Sewell). The 5-8 workshops will take place on August 20, 21, and 22 at Academy Central (Edison), and on August 25, 26, and 27 at Academy South (Sewell). The charge will be \$75 per day (including lunch and materials). Please bring this program to the attention of principals and K - 8 teachers in your district. For information, please check off the appropriate WORKSHOP boxes on the Response Form on page 11.

April is Math, Science, and Technology Month

It's not too late to create an event!

by Peter Sobel

Math, Science and Technology Month is a series of events designed to invite parents, children, and teachers to interact in a fun, hands-on problem solving environment. By bringing parents, children, and teachers together through these events we have created a great vehicle to communicate to parents, in concrete form, the changes that are taking place in the classroom, as a result of the adoption of New Jersey's Core Curriculum Content Standards in these subject areas.

As educators, we need to reach out to parents and highlight the changes in teaching and learning of these disciplines and how these changes will reinforce the knowledge and skills their children will need to succeed in their lives and careers. By dynamically demonstrating the relationship of these subjects, and their integration, to solving problems in the real world, we can encourage parents to become supporters and advocates of the standards.

Last year over 450 events took place in April with over 89,000 participants. We hope to beat this record setting attendance in 1997. Your event can be the size of a classroom or an entire school. You don't need to organize and implement the entire event alone. A collaboration of several teachers can enrich any event.

Please consider coordinating an event. If you are interested and wish to receive an information packet which contains several great ideas for events, please call Debbie Toti at 908-445-4065. Call now so that you can receive your packet in plenty of time to develop your event.

**For Information on MSTM '97 events in your area:
Call 1-800-44-APRIL**

MSTM — Event Goals

A good MSTM event should...

- 1 actively involve parents with their children in engaging, hands-on learning experiences in mathematics, science, and technology.
- 2 convey to parents the vision and recommendations of the mathematics, science, and technology standards adopted by the State Board of Education.
- 3 highlight the changes in the teaching and learning of these disciplines that are being proposed by national professional organizations and that are being implemented in your local district.
- 4 reinforce the importance of knowledge and skill in these areas to your students' future lives and careers.
- 5 dynamically demonstrate the advantages that come from the thoughtful integration of math, science, and technology in the school curriculum.
- 6 be fun and informative for everyone involved.

New Jersey Mathematics Curriculum Framework — It's Finished! ... ctd

(continued from page 1)

appears on page 7.) The development of the *New Jersey Mathematics Curriculum Framework* involved a four-year collaborative effort of the New Jersey Mathematics Coalition and the New Jersey Department of Education, with funding by the United States Department of Education. Using that collaboration as a model, the Department has enlisted the Merck Institute for Science Education and New Jersey Network (NJN) to work with the Department to develop the science and language arts literacy frameworks, respectively.

We were all pleasantly surprised the following Tuesday when Governor Christie Whitman, in her State of the State address, showed the *Framework* to the Legislature, and focused her remarks on our high expectations for all students, emphasizing the "all" that is highlighted in the Coalition's logo. (Her remarks are on page 9.) And many of you first saw the framework the following day, when a picture of the Governor holding the *Framework*

appeared on the front page of many of the state's newspapers.

But the completion of the *Framework* is only a step, albeit an important one, in the major task that we have — of achieving the Goal described in New Jersey's Mathematics Standards:

"To enable ALL of New Jersey's children to move into the twenty-first century with the mathematical skills, understandings, and attitudes that they will need to be successful in their careers and daily lives."

New Jersey's Mathematics Standards serve as a vision of excellent mathematics education and as a banner around which we can all rally. The standards also present a powerful challenge to all teachers, schools, and districts. It will not be easy to meet this challenge, nor will it happen overnight. The *New Jersey Mathematics Curriculum Framework* is a major tool which we can use to meet that challenge. But in the final analysis it is up to all of us to accept and meet the challenge of ensuring "Math For All".

Meeting Announcement

The Framework on the Web

Tuesday March 18 from 3-5 p.m. 228 SERC, Busch Campus, Rutgers University

The agenda of this meeting is to discuss "The Framework on the Web" — that is, how the Web can be used to extend the Framework, by providing additional resources, such as grade-specific activities submitted by New Jersey teachers, and by providing an on-line forum to discuss the mathematics standards. Please call or email Peter Sobel (sobel@dimacs.rutgers.edu, 908/445-2894) to let us know of your interest in and/or attendance at the meeting.

(Note: This meeting will take place directly after the completion of the Precalculus Conference.)

The Third International Mathematics and Science Study (TIMSS) can be found on the Web

<http://www.ed.gov/NCES/timss>

Pursuing Excellence: A Study of U.S. Eighth-Grade Mathematics and Science Teaching, Learning, Curriculum, and Achievement in International Context

Four Key Points:

No single factor can be considered to influence student performance in isolation from other factors. There are no single answers to complex questions.

The content of U.S. eighth-grade mathematics classes is not as challenging as that of other countries, and topic coverage is not as focused.

Most U.S. mathematics teachers report familiarity with reform recommendations, although only a few apply the key points to their classroom.

Evidence suggests that U.S. teachers do not receive as much practical training and daily support as their German and Japanese colleagues.

To receive information about national developments and opportunities related to mathematics education, ask Peter Sobel (sobel@dimacs.rutgers.edu) to add your name to our e-mail list.

State of New Jersey
Executive Department

Proclamation

WHEREAS, the development and implementation of rigorous core curriculum content standards are at the heart of the Department of Education's Strategic plan for Systemic Improvement of Education in New Jersey; and

WHEREAS, in May 1996 the State Board of Education adopted a set of core curriculum content and workplace readiness standards for public education in New Jersey; and

WHEREAS, curriculum framework documents are being developed to help districts modify curriculum and adapt instruction to reflect these academic content and workplace readiness standards; and

WHEREAS, the first of those framework documents has been prepared for mathematics through the collaborative efforts of the New Jersey Mathematics Coalition and the New Jersey Department of Education; and

WHEREAS, earlier versions of the Mathematics Curriculum Framework have been reviewed and field-tested by thousands of educators throughout New Jersey;

NOW, THEREFORE I, CHRISTINE TODD WHITMAN, Governor of the State of New Jersey, do hereby release for voluntary use in public schools the

NEW JERSEY MATHEMATICS CURRICULUM FRAMEWORK

and urge all educators in New Jersey to apply the resources and strategies contained therein to bring about, at all grade levels, systemic change in mathematics education which results in increased student achievement.

GIVEN under my hand and the Great Seal of the State of New Jersey, this seventh day of January in the year of Our Lord one thousand nine hundred and ninety-seven and of the Independence of the United States the two hundred and twentieth.

Christine J. Whitman

GOVERNOR

Incorporating the New Jersey Mathematics Standards into a College Mathematics Course

by Patricia Piech

In Burlington County College's Modern College Mathematics I, a course designed for Education and Liberal Arts Majors, a Classroom Observation Project is required. Even though these college students are freshmen and sophomores, it is my feeling that a hands-on experience observing a mathematics lesson at a grade level of their choice will be motivational and informative as these students focus on their professional goals.

In May, 1996, when I received the New Jersey State Department of Education Core Curriculum Content Standards, followed immediately by the June 1996, *New Jersey Mathematics Coalition Newsletter* heralding New Jersey's Mathematics Standards, I felt these important new guidelines must be incorporated into my course for prospective teachers. And so an "Addendum" to the Classroom Observation Project was created.

By requiring my students to address "at least two" of the Standards in their reports, I felt that they would read and reread each standard. In fact, this is exactly what did take place. I was delighted to find many more than two standards referenced in both their written and oral presentations.

My intent in requiring the discussion of New Jersey's Mathematics Standards in this assignment was:

1. To inform future educators of this important revision in our mathematics curriculum.
2. To have my students become conversant in the ideas, language and intent of the Standards.
3. To see the Standards being used in a classroom observation.
4. To incorporate the Standards in the "original" teaching aid created as part of the project.

All of these goals were accomplished as evidenced by their written reports (spelling and grammar not corrected).

3rd grade "When the teacher allowed the children to help each other, she was using the fourth standard. She used the idea that if you allow the children to help each other out, you are teaching them to use their own minds in trying to help another child solve mathematical problems."

5th grade "The blocks were a wonderful tool for the teacher to incorporate into the lesson. The students were able to hold in their hands something tangible when trying to comprehend decimals as opposed to an abstract idea. (Standard #2 and #5)"

Kindergarten "The cave game demonstrates both Standard Three and Standard Six. By using rocks and a cave, the students are able to connect mathematics to other parts of life. In this case, the students are able to recognize that things in nature have numbers."

In conclusion, some happy and enthusiastic comments about the classroom observation experience:

"I really enjoyed observing a classroom. It was so much fun. There is so much love and excitement in a classroom. The children are a handful and they keep you occupied all day. I am looking forward to becoming a school teacher. I can't wait to be able to teach these lively children."

"To sum this observation up, I would like to say that this classroom was the perfect environment to learn in. The teacher was great, she handled the children very nicely. The most important thing was that the children really got involved in what they were doing."

Dynamic Instructors Needed for Innovative Science/Math Summer Program For Minority Middle School Students at Jersey City State College

During the months of July and August, 1997, 50 middle school students from Jersey City and Bayonne will participate in a seven-week intensive math and engineering program called Proyecto Access at Jersey City State College. Proyecto Access was created by the Hispanic Association of Colleges and Universities (HACU) with financial support from the National Aeronautics and Space Administration (NASA) and academic supervision from the University of Texas, San Antonio.

The purpose of this program is to identify high achieving minority middle school students in order to provide them with academic enrichment to encourage them to pursue careers in engineering, mathematics, and science. During these seven weeks, the participants will receive instruction in logic, problem solving, computer science, engineering, and technical writing. Students will attend career awareness seminars and take field trips to learn about careers in math related fields.

Dynamic and creative college professors and/or high school teachers will be needed to make this program successful. If you are interested in being an instructor for this project, please contact Julio Guillén, Program Director, at 201-200-2190, e-mail guillen@jcs1.jcstate.edu ASAP.

From New Jersey Governor Whitman's "State of the State" Address Tuesday January 14:

I am truly excited about what the future holds for the children of New Jersey.

Our new core curriculum standards mean that every student in every classroom in every school in every district is going to learn what he or she needs to succeed in the next century — every student.

The development of a rigorous core curriculum is the bedrock of our efforts to improve education in New Jersey. Some have said that these standards will lead to a "dumbing down" of education across our state. Nothing could be further from the truth.

Let me show you something. This is the new curriculum framework for the mathematics part of our standards. Not for all seven standards — just for mathematics.

Here's the type of problem every seventh grader should be able to solve. *The Giants and the Eagles are in a playoff. If the probability of the Giants defeating the Eagles in an individual game is 40 percent, what is the probability that they will win a three-game playoff?* [Pause] If you're wondering, it's 35.2 percent. [Laughter, then applause]

And high school juniors will have to understand things like the difference between linear and quadratic models so they can move ahead to calculus.

There will be a guide like this one for each of our seven core curriculum subjects. I invite anyone who doubts our commitment to excellence to study this book and tell me we are "dumbing down" our schools."

How Did She Get 35.2%?

by Joseph G. Rosenstein

To solve this problem, you need to use an important problem solving strategy (particularly useful for probability problems), and be aware of two fundamental probability principles.

The first step is to describe all the possible results of the playoff. Using a tree diagram is a strategy which works beautifully for this kind of problem.

Note that if either team wins the first two games, then the third game of the playoff is not played.

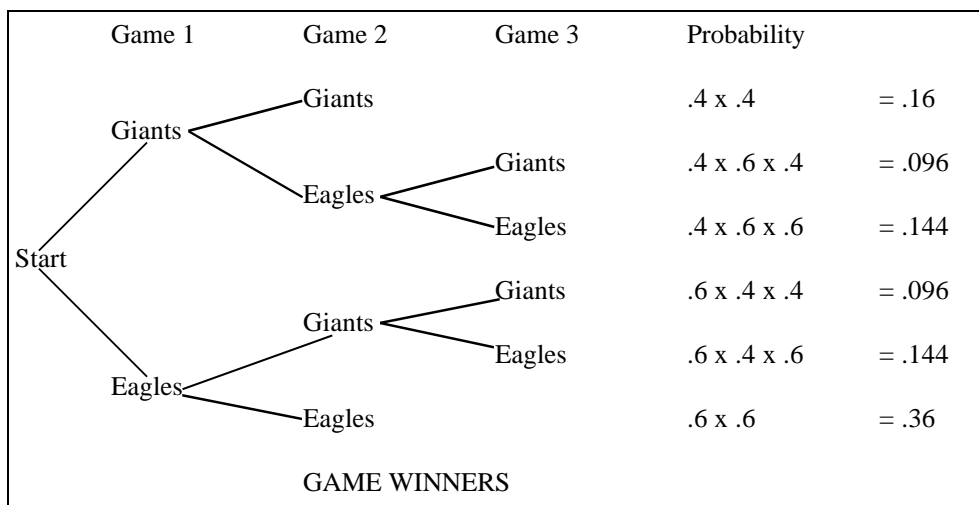
Now what is the probability of each possible result? For example, what is the probability of the three games being won in order by the Eagles, the Giants, and then the Eagles?

For the first game, the probability of the Eagles

winning is 60%, or .6. For the second game, the probability of the Giants winning is 40%, or .4. For the third game, the probability of the Eagles winning is 60%, or .6. Since we assume that these individual results are independent of one another, the probability that all three happen in sequence is the product $.6 \times .4 \times .6 = .144$, or 14.4%. This principle is called the multiplicative law of probability, and is used to generate each of the probabilities in the chart.

Now what is the probability that the Giants win the playoff? Well, this can happen in three different ways, corresponding to the first, second, and fourth rows of the tree diagram. And the probabilities of each of these outcomes are, respectively, .16, .096, and .096. Since these results are mutually exclusive, the probability that any one of these happen is the sum $.16 + .096 + .096 = .352$, or 35.2%. This principle is called the additive law of probability, and that's how she did it! No question about it.

Now try the following problem. The weatherperson announces that the probability of rain is 50% on Saturday and 50% on Sunday. What is the probability that it will rain on the weekend? (Adding them up and concluding that it will definitely rain is the wrong answer!) Or try this: Suppose the probability that it will rain on Saturday is the same as the probability that it will rain on Sunday. What is that probability if there is only a 10% chance of a completely rain-free weekend?



Calendar of Events - Spring/Summer 1997

March 18, 8:30 a.m. to 3:00 p.m. Precalculus Conference. The eleventh annual "Good Ideas in Precalculus and... Conference." Busch Campus, Rutgers University. Registration is \$60 and includes lunch. Open to all high school and college instructors, the conference will include presentations, idea exchanges and software sessions on precalculus, probability and statistics, and discrete mathematics. For further information contact Bonnie Katz at 908/445-4065 or e-mail bonnie@dimacs.rutgers.edu. Sponsored by the Rutgers Center for Mathematics, Science, and Computer Education.

April 1-30, Math, Science, and Technology Month. For more information see the article on page 5. For information about events in your area call 1-800-44-APRIL.

April 11. Mathematics Symposium "Technology in Mathematics Day", Montclair State University. Keynote Speaker Franklin Demana. Cost is \$30. Call 201/655-5353 for more information.

April 12. Mathematical Association of America (MAA) New Jersey Section, Spring Meeting. Middlesex County College, Edison. For more information contact Theresa C. Michnowicz at 201-200-3219.

April 25-26. Graphing Calculator Conference sponsored by the New Jersey Mathematics Coalition, Middlesex County College, and the Rutgers Center for Math, Science, and Computer Education. Friday 4/25 from 1 to 4pm and Saturday 4/26 from 9am to 4pm. Registration fee is \$45 for Friday and \$65 for Saturday or \$100 for both. See page 12 of this Newsletter for details.

May 6, May 12, May 14 Association of Mathematics Teachers of New Jersey (AMTNJ) Spring Conferences. Mathematics: A Reflection on Your Future - sessions and mini-workshops. May 6 - Montclair State University, May 12 - Rowan College of New Jersey, May 14 - The College of New Jersey. Call Nancy Schultz at 201/790-6184 for information.

June 4, 3:00pm - 6:00pm. New Jersey Mathematics Coalition Board of Governors meeting, Educational Testing Service (ETS), Princeton. Call 908/445-2894 for information.

June 23-24. A Crash Course in Discrete Mathematics for High School Teachers, Busch Campus, Rutgers University. For information call Bonnie Katz at 908/445-4065.

June 23-27, June 30 & July 1, July 7-11, July 14-18. TRANSIT-NJ Summer Institutes. The New Calculus AB/BC Course June 23-27 (local linearity, slope fields, Euler's method, discovery projects in AP calculus). **July 7-11 AP Statistics** (Exploratory data analysis, probability distributions, statistical inference, TI-83 and Minitab).

T-cubed Institutes — Elementary June 30 & July 1 (combining the use of calculators and manipulatives), **AC2E July 7-11** (Algebra with Calculator and Computer Enhancement), **C3E July 14-18** (Calculus with Calculator and Computer Enhancement). All at Montclair State University. Call 201/655-5353 for information and applications.

June 25 - July 11. Leadership Program in Discrete Mathematics for K-8 teachers. Two week commuter institute at Rutgers University. Graduate credit is available and funding from the National Science Foundation will provide food and a \$600 stipend. This program is sponsored by the Center for Discrete Mathematics and Theoretical Computer Science (DIMACS) and the Rutgers Center for Math, Science, and Computer Education. For more information contact Bonnie Katz 908/445-4065 or e-mail bonnie@dimacs.rutgers.edu. Applications are due by April 15.

June 30 - July 3. Workshops on New Jersey's Mathematics Standards for teachers of grades K-4. Academy Central, Edison and Academy South, Sewell. Fill in WORKSHOP box on next page or call Debbie Toti at 908/445-4065 for further information.

July 7 -18. Standards Dissemination Project Grades 5-8. Indian Fields School, South Brunswick, NJ. See article on page 3. For an application form, call Debbie Toti at 908/445-2894 or return the form on page 11.

July 14 - August 8, 1997. Young Scholars Program In Discrete Mathematics at Rutgers University, New Brunswick, New Jersey. High School Teachers: if you know of a sophomore or junior who could become interested in a career in mathematics you should contact Lisa Estler at 908/445-4065. There are only 45 slots open for students throughout New Jersey. The students will participate in an intensive one-month academic program where they will meet mathematicians and computer scientists, learn about discrete mathematics, work on a research project, be engaged in computer activities, participate in workshops on careers in the mathematical sciences, and go on field trips.

July 14 - July 25. Leadership Program in Discrete Mathematics for K-8 teachers. Two-week residential institute at Rutgers University. Graduate credit is available and funding from the National Science Foundation will provide food, lodging and a \$600 stipend. This program is sponsored by the Center for Discrete Mathematics and Theoretical Computer Science (DIMACS) and the Rutgers Center for Math, Science, and Computer Education. For more information contact Bonnie Katz 908/445-4065 or e-mail bonnie@dimacs.rutgers.edu. Applications are due by April 15.

(continued on next page)

Graphing Calculator Conference

April 25-26, 1997

The Coalition's Fourth Annual Graphing Calculator Conference will take place on:

Friday, April 25 (1:00 - 4:00 pm) and Saturday, April 26 (9:00am - 4:00 pm)
at Rutgers University, New Brunswick

*** for new users and experts**

*** for math teachers**

*** for science teachers**

Featured will be introductory and intermediate sessions on graphing calculators and the Calculator Based Laboratory (CBL) system of scientific probes. These scientific calculators can be linked to a variety of probes and sensors to measure motion, sound pH, temperature, light intensity, voltage and other physical variables, providing an ideal connection between scientific phenomena, data collection and mathematical modelling.

Cost: Friday \$45 Saturday \$65 Both days \$100

Sponsors: New Jersey Mathematics Coalition, Middlesex County College, and Rutgers University's Center for Mathematics, Science and Computer Education

To reserve your space call Debbie Toti at 908-445-4065 ASAP. Reservations are on a first come first served basis.

NJMC Newsletter

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