

AMTNJ News

Association of Mathematics Teachers of New Jersey / 856-358-4373
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October 2007

NJDOE Suggests Changes in Graduation Requirements

Your Chance to Comment

The State Board of Education will discuss changes to the Core Curriculum Content Standards in both Language Arts Literacy and Mathematics at their November 7th public meeting. The modifications are intended to better align New Jersey's standards with American Diploma Project Benchmarks. AMTNJ members had the opportunity to review and provide feedback on the proposed revisions at sessions held around the state several months ago. Achieve, Inc. favorably reviewed the changes. If you wish to comment to the State Board

on the changes, you may do that at their November 21, 2007 meeting in Trenton. To testify before the State Board, you need to register the week before, either online at <http://education.state.nj.us/sboe/> or by calling the State Board office at 609-292-0739. If you are unable to present at a public testimony session, you may submit written comments to the following address: New Jersey Department of Education, State Board Office, P.O. Box 500, Trenton, NJ 08625-5000.

The New Jersey Department of Education is also proposing that all students take the equivalent of Algebra I (along with Biology) as a requirement for a state-endorsed diploma. The word "equivalent" is used to provide for spiral, integrated programs that combine the study of algebra, geometry, and statistics, generally over three high school years. The State Board of Education will discuss this and other related changes to the graduation requirements over the coming months. As with all State Board discussions, public comment is welcome and encouraged.



President's Message

by Alexis Kopperman

As another school year begins, we face a new group of learners with the hope that we can instill in them the love of mathematics that we have, the excitement that we know can be gotten from numbers. Most of us became teachers to pass on a love of learning to a future generation. But where does this love of mathematics begin? Not in High School or Middle School, but in Elementary School. Not with symbolic manipulation but with the satisfaction of making sense of our world and understanding what things mean. For that reason, I believe we need to reach more elementary teachers. How can we do this?

Elementary teachers have to be the jacks-of-all-trades, teaching every subject. The majority of elementary teachers would much rather concentrate on literacy than mathematics. So I pose the question, "How can

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Changes in NJASK

The Grade Eight Proficiency Assessment (GEPA) will now take on the new name of NJASK 8. The NJASK 5 and 6 will have a non calcular section. Other changes in the GEPA and the NJASK 5,6, and 7 exams can be found on page 3.

Algebra II End of Course Exam

The American Diploma Project Secondary Math Partnership will be administering a common exam with common standards for Algebra II students beginning in May 2008. The project is an initiative of the ADP Network, a group of 29 states that educate more than 60 percent of all American public school students. New Jersey is participating in a 13 state consortium to

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*AMTNJ wants its
newsletter to be fair and
correct in every way. If
you have a question
or comment about any
information in this
newsletter contact either of
the co-editors.*

Algebra II Exam

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develop this test. Field testing of items will occur in New Jersey this year with volunteer districts:

- Paper and pencil and online field tests will occur October 1 through October 5 2007
- Online only field tests will occur in February 2008

The test will be administered operationally in New Jersey in a two week testing window of May 19-30, 2008. This administration will produce Individual Student Score Reports. This administration is also voluntary and will include approximately 11,000 students.

Initial item reviews have already been conducted and involved five New Jersey secondary teachers and three higher education representatives. Rangefinding will occur October 30-November 2, 2007 and will involve New Jersey educators. Standard setting will occur in the summer of 2008 and will involve New Jersey educators. A style guide/notations sheet should be available soon. This

is a multiyear project and will involve release items. For more information visit the the link to the Achieve Algebra II Standards: http://www.achieve.org/files/Algebra_II_ExamContent08.01.07.pdf or contact Michael Luke of the New Jersey Department of Education at 609.984.9637 or via e-mail at michael.luke@doe.state.nj.us

AMTNJ's 31st Annual Math Contest

The 31st Annual AMTNJ Math Contest will be held on Wednesday December 5, 2007. The contest is a 15 question free response test in which students have 45 minutes to complete the contest. Only calculators allowed on the SAT I exam are allowed on this contest. The material covers topics from Algebra 1 through Pre Calculus. The rules and regulations, and the registration form are being mailed to all secondary schools in the state during the month of September. These forms are also available at the AMTNJ website: www.amtnj.org. A sample of last year's contest (with answers) is available at the website: www.amtnj.org.

AMTNJ Calendar of Events

October 24 - 26	AMTNJ Annual Conference, Somerset
October 31	HS Mathematics Competition registration due
December 5	AMTNJ HS Math Competition
<i>Winter Conferences:</i>	
January 9th	Brookdale Community College
January 10th	William Paterson University
January 15th	Stockton State College
March 1	Job Fair North
March 15	Job Fair South
March 30	Scholarship Application due
May 4	Entries due for 16th Annual Button Contest

NJASK 8 vs GEPA

The NJASK 8 is replacing what was known as GEPA. The following chart shows the differences between the two mathematics assessments. Any questions regarding the NJASK 8 may be directed to Tim Giordano at NJDOE: (609) 633-8015 or timothy.giordano@doe.state.nj.us

	GEPA	NJASK 8
Administration	One day during the second week in March	One day during the last week in April
Length of test	120 minutes	133 minutes
Calculator use	All sections of test are calculator active.	All sections of test are calculator active.
Types of items	Multiple Choice (MC) and Open-Ended (OE)	Short Constructed response (SCR), Multiple Choice (MC) and Extended Constructed Response (ECR)
		An SCR item is like a multiple choice item; however, there are no answer choices. The student provides a written answer. An ECR item is an OE item. It's just another term for Open-Ended.
How many of each item	40 MC and 8 OE, includes field-test items	10 SCR, 42 MC and 5 OE, includes field-test items
Total number of sections	4 sections, each section contains 10MC and 2 OE	5 One section contains 10 SCR One section contains 12 MC and 2 ECR Three sections contain 10 MC and 1 ECR
Time for each section	30 minutes (1min/MC and 10min/OE)	SCR section: 20 min. (2min/SCR) 12 MC and 2 ECR section – 38 min. (1.5min/MC and 10min/ECR) 10 MC and 1 ECR sections – 25min. each (1.5min./MC and 10min/ECR)
Total points possible	48 (12 per standard) 1 point for ea MC and 3 points for ea OE	52 (13 per standard) 1 point for each SCR and for each MC 3 points for each ECR

Here are some of the changes coming to the grades 5, 6, and 7 NJ state assessments for mathematics:

1. Two (2) days of mathematics testing.
2. More constructed response items.
3. New item type- short constructed response items at 1 raw score point.
4. More items for richer and more reliable score reports- 33 in 2005 and 2006.
5. More raw score points- 39 in 2005 and 2006.
6. NJASK 5 and 6 will have a non calculator section.

Abbreviations:

MC- multiple choice, 1 point each
SCR- short constructed response, 1 pt ea
ECR- extended constructed response, maximum of 3 points each

NJASK 5-7

		Grade 5	Grade 6	Grade 7
Item Count by type	MC	42	42	42
	SCR	8	8	10
	ECR	5	5	5
# of sections		5	5	5
Total raw score points possible		50	50	52
Total testing time over two days		120	120	124

Note:Forms include field test non-operational embedded items. Please contact Michael Luke at 609.984.9637 or luke@doe.state.nj.us with questions.

Two Local Educators Attend NCTM's Affiliate Leaders Conference

Cresenda Jones from Matawan-Aberdeen Regional School District, New Jersey, and Connie Kelley from Brookdale Community College, Lincroft, New Jersey joined other mathematics educators from across the United States and Canada at the National Council of Teachers of Mathematics (NCTM) Affiliate Leaders Conference in Chicago, Illinois, August 10–12, 2007. The conference, with the theme “Positive Strategies for Affiliates,” included a variety of leadership-enhancing professional activities for mathematics educators and, in particular, for Affiliate leaders. The professional activities promote a commitment to improving mathematics education for all students. NCTM Affiliates are state, local, student, and at-large mathematics councils.

The conference was designed to strengthen Affiliates in the areas of partnership and membership as well as leadership by providing participants opportunities to: identify their leadership strengths, network and exchange ideas, develop Affiliate action plans, and share strategies. Facilitated by members of the Council's Affiliate Services Committee, there was a rich exchange of ideas and expertise for strengthening Affiliates and for making Affiliate leaders more effective in their roles. Throughout the conference there were opportunities to connect with Council leadership, including NCTM President Francis (Skip) Fennell and NCTM Executive



Left to Right: NCTM President Francis (Skip) Fennel, AMTNJ's 2nd Vice President, Connie Kelley, 3rd Vice President, Cresenda Jones, and Executive Director Jim Rubillo

Director Jim Rubillo.

“Today, the demands of No Child Left Behind, high stakes assessments, the need for curricular coherence, and the importance of mathematics for all students at every level of schooling, mean that more than ever teachers look to NCTM and its Affiliates for guidance and support to meet these challenges. The Council and Affiliate leaders are partners in preparing the next generation of teacher leaders to organize professional development activities, become master teachers, and lead the profession. Let's work together to leave no teacher behind!” said Fennell.

Affiliate leaders conferences offer a forum for the Council's Affiliates to examine and strengthen their role in providing opportunities for emerging, new, and seasoned teachers to grow professionally through the partnership of NCTM and its Affiliates.

TLC Mathematics: Teaching, Learning and Constructivism

Winter Regional Conferences

Our Winter Regional Conferences will offer sessions on teaching, learning and constructivism in New Jersey. For a full listing, descriptions, and schedules of the morning and afternoon sessions visit our website: www.amtnj.org <<http://www.amtnj.org>> . Join and network with colleagues over a continental breakfast and lunch. Participants will earn 4.5 hours of professional development. Registration fee for AMTNJ members is \$60 and for non-members is \$90. All regional conferences are

from 8:30 until 3:30 with registration and continental breakfast beginning at 8:00 a.m.

Dr. Robert Riehs from the New Jersey Department of Education will speak about “Where's the TLC in New Jersey Mathematics Standards?” at Brookdale Community College, Michael Luke from the New Jersey Department of Education will speak at William Paterson University and Dr. Eric Milou from Rowan University will speak on the topic: “Constructivism Mathematics: What is it anyway?” at Stockton State College. Check the calendar for dates. Hope to see you there!!!



Elementary Edge

A Game of Dominoes

by Cyndy Montes

Have you played Dominos with a child lately? Games are a wonderful way to learn how children think about mathematics. Asking the right questions and listening to students “talk math” is invaluable to understanding where they are on the number sense scale. Playing dominoes with a first grader opened my eyes to the way children in the primary grades process mathematics.

Megan had played with the dominos before, but had never kept score or played an “official” game. I explained the game briefly and determined that she could understand doubles and order, necessary for starting the game. I explained how to score and what would end the game and how the winner was determined. Megan is bright and was easily able to add her points after each game without resorting to fingers, paper, or counting. After each game we recorded our scores on a table.

After playing five games we looked at the scores. She noticed that I lost two games and she lost three, but her

numbers were much smaller than mine. She asked if the winner was the one who won the most games. I explained that the winner was the person with the fewest points after totaling all the games. She was eager to add the points.

First she mentally added my points, $21 + 12$. She immediately got 33. I asked her how she did that so fast. She explained that she added 21 plus 10 (from the 12) and got 31. Then she just added the two that were left over and got 33. It was obvious that she was able to decompose numbers and use tens easily.

Megan did not think that she would be able to add her three scores. “We haven’t learned how to do that yet,” she explained. I said that I would help her and asked what $9 + 7$ would be. She recalled that it was 16.

Now came the tricky part, how would Megan add $16 + 6$? This involved regrouping and that is rarely taught in first grade. After stating unequivocally that she could not do it, I asked her

how many she would need to make 20 from 16. She thought a minute and said 4. After questioning her she explained that she took 4 from the 6 to make 20 and then added the two left over to make 22.

“So who won?” I queried.

“I did!”

“By how many points did you beat me?”

“You mean subtract? I haven’t learned how to subtract big numbers,” Megan insisted.

I asked her to try. How could she find 33 minus 22 ? Without using any paper or pencil, she thought for a minute and then shouted out, “Eleven!” She told me that 22 plus 10 was 32 and one more made 33 – thus the difference was 11.

Megan was thrilled with her victory, but I saw a larger victory. This first grader had taken me on a journey through her brain. I was able to see how she processed mathematical information. As a teacher, I want to ensure that all my students can “think math” successfully. Megan may not be typical of first graders, but the insight I gained helped me to improve how I approached making sense of math with primary students.

Honor a Mathematics Teacher

Are you looking for a way to recognize a special Math Teacher for a birthday or for retirement?

Consider a tax-deductible donation to the AMTNJ Scholarship Fund in their honor.

AMTNJ scholarships are awarded each year to students pursuing Math Education as their career goal. What better way to “touch the future”!

Send donations to

Scholarship Fund

c/o AMTNJ

PO Box 7

Glassboro, NJ 08028

Honoree’s names will be published in our Newsletter. You may include a short informative paragraph about the honoree.

**Scholarship
Applications
deadline
March 5**

For more information and forms go to www.amtnj.org

Cards and Games

Strengthen Students' Understanding of Key Mathematics Concepts

by Norma Boakes

Richard Stockton College of NJ

How often do you spend reviewing the basic facts? Do you find that students never seem to have enough practice comparing numbers? An often forgotten but simple tool to practice key mathematics concepts is through the use of a regular deck of playing cards and dice. I've found that students love to work with them and are very engaged in the games played with them. Are you curious yet? Excellent. Below you will find a collection of some of my favorite games. For complete directions for each game, please visit the AMTNJ website at www.amtnj.org. Click on "downloads".

SNAP- This game is a fast-paced way to practice the basic facts of addition and multiplication. It's appropriate as a review or as a practice of new material. You can even send this home to be practiced with a family member.

ODD or EVEN? This card game provides students with practice identifying odd and even numbers, finding the sum of a set of numbers, and recognizing equivalent values.

SANDWICH – This card game is designed to provide students with practice comparing quantities (less than, greater than, or equal to).

Star Traveler- This game, played in teams of four or more, allows students to practice all of their basic facts.

Be sure to recruit another player before you check out the complete directions on www.amtnj.org! Enjoy!

Attention Math Team Advisors!

Future issues of the AMTNJ Newsletter will recognize the students and advisors who participate in our annual contests. If you would like to nominate a teacher or team, please contact either of the co-editors.

President's Message

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we at AMTNJ help elementary teachers become great mathematics teachers?' Historically, our conferences have concentrated heavily on the higher levels of mathematics. Should we run conferences just for elementary teachers? Should our general conferences have a heavier concentration on elementary topics? We are looking for ideas from you, our members, to help us serve this underrepresented portion of New Jersey's Educators. If you have any suggestions, we would love to hear them. We need to know how to best reach all teachers who teach mathematics, not just middle and high school math teachers.

For those of you who are NCTM members, please vote in the current election. Dr. Eric Milou, past president of our organization is running for the NCTM board as an At-Large candidate. Let's support him in this effort.

This will be my last column as president. Dr. John Hammett III takes over the presidency January 1, 2008. I look forward to seeing you at the October Conference (Oct. 24-26) and at our booth at NJEA. Thank you for making this an exciting and productive year. It has been an honor to serve as President of this organization and to get to meet so many of you over the course of this year. Keep up the wonderful work you are doing with our children, our most important resource.



by Barbara VanDenBerg

We are very excited about this year's Outreach programs. Our aim is to bring meaningful after school math workshops to your counties throughout the year.

One of the topics we offer this year is Developing Mathematical Thinking for the NJASK Testing with a focus on grades 3-6. We also offer a manipulative workshop for grades 1-3.

Help AMTNJ get the word out. If you are willing to hold an after school workshop this school year, please contact Barbara VanDenBerg at bvandenberg@optonline.net. Let us know how we can make these workshops better serve you.

AMTNJ Annual Conference October 24-26, 2007 Somerset, NJ Building a Community of Learners



One Math
Educator at a
Time

AMTNJ is preparing for its Nineteenth Annual Two-Day Conference in Somerset, N.J., with the theme, “***Building a Community of Learners, One Math Educator at a Time.***”

This event begins Wednesday night, October 24th, with the Opening Session Dinner. **Dr. Glenda Lappan**, NCTM Past President, and author of *Connected Math*, will give the keynote address.

More than 125 workshops and sessions are planned for Thursday and Friday, October 25th and 26th. The sites are the Holiday Inn in Somerset and the former Somerset Marriott, currently known as the Somerset Plaza. AMTNJ Past Presidents and two New Jersey Department of Education representatives will appear on the program as speakers. Several sessions are dedicated to the latest innovations in hand-held calculators, such as the TI-Nspire.

[*Editorial note:* The conference program booklet refers to the former Somerset Marriott as the Somerset Crowne Plaza, the anticipated new name of the hotel. However, the name change is still pending.]

Conference strands include:

- Assessment and Evaluation;
- Differentiated Instruction, Integrated Learning, and Cross-curricular Connections;
- Language arts, Literature, Reading and Writing;
- Teacher Education (In-Service, Pre-Service)
- Calculator-based Technology
- Computer-based Technology

This year there will be an **AMTNJ Scholarship Breakfast** on Thursday morning. Donations in excess of \$15 are tax deductible. Plan to join other members and friends of the organization to support this worthy program for qualified future math teachers.

On Thursday, an all-day mini-course will feature **Lesson Study**. Attendees should plan to participate for the entire event on Thursday. Participants will observe a simulated lesson with middle school children. Related sessions will follow on Friday. This special event will take place in Salon A of the Holiday Inn.

Vendors will be located in both hotels, inside and nearby the Grand Ballroom at the Somerset Plaza and outside the Salons of the Holiday Inn, mostly along the hallway between the lobby and the meeting room spaces of that hotel. Don't forget to pick up your professional development certificate when you visit the vendors. Additional vendor sessions will take place in the Washington Suite of the Somerset Plaza. Look for announcements and listings at the conference.

Be sure to check out the **Student Exhibits** near the Salons in the Holiday Inn; the awards ceremony has been rescheduled to start earlier: 2 PM on Thursday.

Remember, sessions are *not* ticketed. Seating is on a first-come, first served basis. Plan ahead, but prepare some alternate sessions, if you get closed out of a session, due to fire marshal rules, *standing or sitting on the floor is not permitted*. Allow for some travel time between the two hotels by bus. Cash-and-carry food lines are planned for both hotels, for your convenience.

The complete booklet and registration form are available at www.amtnj.org

AMTNJ EXHIBIT of STUDENT WORK



The 2007 AMTNJ Exhibit of Student Work event will be held October 25-26 during the Annual Meeting in Somerset, NJ.

Projects are judged in four grade level categories: K-2, 3-5, 6-8, and 9-12. Savings Bonds are awarded to the first, second and third place winners in each grade level category. Entry deadline for the competitions is October 19, 2007.

Members are urged to participate and to encourage participation from their schools and students by informing other teachers about the Exhibits. Information is available on the AMTNJ web site at amtnj.org.

Back Page Problem Contest

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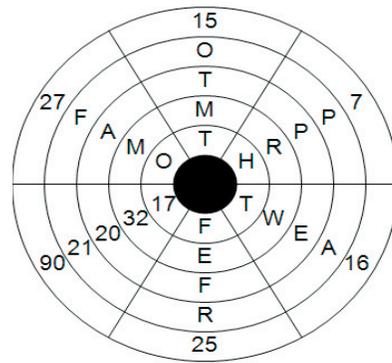
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Visit us at:
www.amtnj.org

A winner will be randomly selected from all AMTNJ members who submit a correct entry before Oct 15. The winner will receive free registration to the AMTNJ Regional Conference October 07. Send in your name, school address,

email, and the answers to: Dr. Bruce Bukiet
Associate Professor of Mathematical Sciences
New Jersey Institute of Technology Newark, NJ
07102 or e-mail: bukiet@adm.njit.edu.

September's Contest: The Number Wheel



Clue: What you feel when you complete this puzzle
Each letter represents a different digit from 0 to 9. Find the value of each letter such that:

1. the digits in each sector add up to the value in that sector's outer ring, and
2. the digits in each ring add up to the number in that ring

Hint:

- The letter in the innermost ring in the 4 o'clock direction is the third letter of the third word of the solution phrase.
- The letter in the fourth ring from the center in the 12 o'clock direction is the second letter in the first word of the solution phrase.

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1 6 5 7 2 6 8 9 4 0 3

Solutions to the June Contest

1. Miles light can travel in 3 minutes is greater: there are 31,536,000 seconds in a year and light can travel 33,530,826 miles in 3 minutes (roughly).
2. I would rather the crocodile attack the alligator. Read the sentence again to see the double meaning.
3. $99/70$ is the next term of the sequence: $1/1, 3/2, 7/5, 17/12, 41/29,$
each successive term better approximates the square root of two and is formed as $(a+2b)/(a+b)$

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