NCTM Releases Curriculum Focal Points

by NCTM President Skip Fennell

I am pleased to announce that *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* was released on September 12. The Curriculum Focal Points are the next step in the implementation of the Standards. The focal points fully support the Council's *Principles and Standards for School Mathematics*. The appendix in *Curriculum Focal Points* directly links the focal points to virtually all the expectations in *Principles and Standards*.

Curriculum Focal Points presents the most important mathematical topics for each grade level. A focal point specifies the mathematical content that a student needs to understand thoroughly for future mathematics learning. The focal points are compatible with the original Standards and represent the next step in realizing the vision set forth in *Principles and Standards for School Mathematics* in 2000. The focal points are intended for use by mathematics leaders as they examine their state and local mathematics expectations and seriously consider what is important at each grade level. This discussion, dialogue, or perhaps debate is designed to influence the next generation of curriculum frameworks, textbooks, and assessments.

Unfortunately, some of the media coverage has raised questions and caused concern among our members. Despite several conversations with a reporter from the Wall Street Journal explaining what the Curriculum Focal Points are and are not, a September 12 Wall Street Journal article did not represent the substance or intent of the focal points. The focal points are not about the basics; they are about important foundational topics. The Council has always supported learning the basics. Students should learn and be able to recall basic facts and become computationally fluent, but such knowledge and skills should be acquired with understanding. Unfortunately, some of the other news media have followed the Wall Street Journal's lead and have similarly misrepresented the Curriculum Focal Points.

The Council's goal is to support teachers in guiding students to learn mathematics with understanding. Organizing a curriculum around a set of focal points can provide students with a connected, coherent, ever expanding body of mathematical knowledge. The focal points describe what should be the focus of what students should know and understand thoroughly.

I encourage you to explore the complete *Curriculum Focal Points* and related resources. You can view a video overview and introduction to *Curriculum Focal Points*, and you can see answers to some questions or submit your own questions about the focal points. The news release on the focal points and a video of the news conference at the National Press Club announcing the release, as well as an article on the focal points from *Education Week*, are also on the Curriculum Focal Points section of the NCTM Web site. (nctm.org)

Alexis Kopperman Assumes AMTNJ Presidency

President's Message
by Alexis Kopperman

Welcome to another exciting year of education and educational opportunities. We at AMTNJ have planned conferences we hope will meet the needs of our members.

Our first conference will be an Equity Conference in Jamesburg on Dec.14, 2006, with our nationally recognized Keynote speaker, Miriam Leiva. Make plans to join us for this exciting event. Instead of Spring Regional Conferences, this year we will hold January Regional Conferences specifically geared to State Testing in grades 5-8. Our speakers will include representatives from the State Math Office and State Testing Office to give us the latest information about the expectations from the State. The Southern Conference will be held at Stockton on January 11, 2007, the Central Conference will be held at The College of New Jersey on January 16, 2007, and the Northern Conference will be held on January 19, 2007, at William Paterson. Make plans now to attend. Registration can be found on our website.

Be sure to check our new website, amtnj.org. Although it is still under construction you will find

AMTNJ Past President Deborah Ives, welsomes newly elected, President, Alexis Kopperman.

NJ ASK 2007 Grades 5, 6,and 7

Changes to the Mathematics Assessment
from Michael Luke

Michael Luke, Department of Education for NJ Assessment of Skills and Knowledge (NJASK) specialist, has announced the following changes for 2007:

• Updated Reference Sheets and, new to the 2007 exam, Manipulatives Sheet can be found at http://www.nj.gov/njded/assessment/ms/5-7/ or at http://www.njpep.org/assessment/index.html • On test day each student will receive a copy of each on card stock. Teachers and students may make copies of the online documents for use in class prior to testing.

•Day #3 Mathematics will require a total administration time of 2 hours 31 minutes. The mandatory testing time is 1 hour 50 minutes with three timed sections of 40, 35, and 35 minutes. Two 5 minute breaks are built into the administration time.

• Each test form will include 37 multiple choice items and 5 constructed response items. The 42 items on each test form are divided equally among the four content standards while also assessing the fifth process standard.

• The entire 2007 assessment is calculator active.

• Embedded within each form will be field test items that will become the property of New Jersey for use on future assessments.

•Tests for 2007 will be equated with the 2006 forms.

•Test specifications for 2006 are still online at http://www.nj.gov/njded/assessment/ms/5-7/ and will be updated for 2007 shortly.

• A 69 item sampler will be posted to http://www.nj.gov/njded/assessment/ms/5-7/ in early to mid-December. The sampler will include 23 sample items at each grade (22 multiple choice and 1 constructed response), an answer key, and a scoring rubric and exemplar papers for the constructed response item. The items were developed by Riverside Publishing Company (RPC), will be presented in test format, and should provide practice for students and insight into the testing idiosyncrasies of RPC.

• Students may write in the test booklet, however, all final answers are to be placed in the student's answer folder.

AMTNJ CALENDAR of EVENTS

December 6	**30th Annual Mathematics Contest**
December 14	**Equity Conference, Jamesburg, NJ**
January 11	**Preparing for NJ State Assessment Conference Stockton State College**
January 16	**Preparing for NJ State Assessment Conference The College of New Jersey**
January 19	**Preparing for NJ State Assessment Conference William Paterson University**
March 2	**Supervisors' Conference**
March 10	**Job Fair North**
March 31	**Job Fair South**
March 30	**Scholarship Application due**
May 4	**Entries due for 16th Annual Button Contest**

Button ... Button
16th Annual AMTNJ Button Contest

Have your students design a button illustrating FACTORS
Information online at www.amtnj.org
Deadline May 4, 2007

President's Message

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all the pertinent information you need for all of the things happening in AMTNJ.

Recently, there has been a lot of discussion and even more confusion over the newly released Curriculum *Focal Points* published by NCTM. For those proponents of "back to basics", this article has been interpreted as a negation of the standards- based, problem solving curricula that are being used by many districts. If there is discussion in your district concerning the Focal Points, please refer teachers, parents and administrators to the NCTM website where President Francis "Skip" Fennell clarifies the meaning and intent of the Focal Points. If you have any comments or questions about this controversy, please feel free to respond to me via e-mail at amtnj@juno.com. As always, we welcome and value your opinions.

Have a great school year. I am looking forward to meeting all of you at our upcoming conferences.

NCTM 2007 Annual Meeting and Exposition
March 21 - 24
Atlanta Georgia

Dr. Warren Crown Honored

2006 Max Sobel Award

The Association of Math Teachers of New Jersey, at its annual conference in October 2006, named Dr. Warren Crown the recipient of the Max Sobel Award in recognition of a lifetime of distinguished service as a mathematics teacher and supervisor, and for his invaluable contributions to the AMTNJ.

Dr. Crown is a native Philadelphian who attended and taught in the public schools of that city. He received his BS in Physics at Carnegie Mellon University in 1969, and his PhD in Teacher Education at the University of Chicago in 1977. Since then, he has worked as a mathematics teacher educator and a professor at the Rutgers Graduate School of Education. His role at the GSE changed slightly when he became the Associate Dean for Academic Affairs in 2004. (He misses his close association with the state's

mathematics education community that was diluted because of that move!)

Dr. Crown has made significant contributions to the field at both the state and the national level. He has helped to define and chart the state's adoption of reforms in mathematics education by serving on each of New Jersey's Standards-writing panels

in math and co-authoring, with Joe Rosenstein and Janet Caldwell, the state's mathematics curriculum framework. He has also been the primary mathematics teacher educator at Rutgers for the past 30 years at both the elementary and secondary levels, training thousands of teachers for the state's classrooms.

At the national level, Dr. Crown has long been known as one of the principal authors of the Scott-Foresman elementary mathematics textbook products. He has been a major author for every textbook series published by the company since 1980. He is also the author of several suites of educational software tools for use in elementary classrooms, including IBM's *Math Concepts* and *Math Practice* and Scott-Foresman's *eTools*. He sees these activities, and the increasing levels of sophistication and quality of those curriculum materials over the years, as additional efforts to improve the teaching of mathematics in American schools.

2006 Presidential Awards NJ State Finalists

The Presidential Awards for Excellence in Mathematics and Science Teaching (PAEMST), established in 1983 by The White House and administered by the National Science Foundation (NSF), is the most prestigious public award for teachers of mathematics and science that our country has to offer. This years' recipients of this prestigious award are Jayne King and Kim Mueller.

Jayne King, a teacher in the Mount Laurel Schools for sixteen years, earned dual Bachelor's degrees in psychology and education from the University of Pennsylvania. Jayne has been instrumental in implementing new educational strategies by pioneering the district's shift to interactive whiteboards in the classroom. As one of the inaugural teachers at the Hartford School, she helped to chart that school's course by serving on the program committee and continues to

steer the district's path through her work on math research and curriculum revision committees. Jayne's students realize their potential in a classroom atmosphere that fosters trust and cooperation.

Kimberly Mueller is a kindergarten teacher at Florence L. Walther School in Lumberton, New Jersey. She earned her Bachelor's and Master's degrees at Beaver College and had the honor of receiving the first doctorate in Educational Leadership from Saint Joseph's University in Philadelphia, PA. Most recently she was honored for her innovative football unit in mathematics by NJASCD and by the state of New Jersey as a Best Practice. Dr. Mueller has presented how to teach mathematics in a non-threatening and enthusiastic manner at the NCTM national and regional conferences.

Presidential Award winners serve as

AMTNJ President Alexis Kopperman (center), with PAEMST recipients Jayne King and Kimberly Mueller.

models for their colleagues and as leaders in the improvement of mathematics and science education. State finalists are honored at public ceremonies and at a recognition luncheon. National winners receive an all expense-paid trip to Washington D.C. for two and $10,000 to be spent at their sole discretion. The program will be identifying outstanding

Over 4300 Attend NCTM Eastern Regional Conference

AMNTJ hosted the Conference in Atlantic City, October 19-21 that brought together over 4300 educators from around the region. The conference theme, "Dive into Mathematics: It's a 'Shore' Thing," highlighted the Council's commitment to providing teachers with exciting and challenging ways to improve mathematics learning for all students.

The conference offered more than 300 sessions and workshops, which featured nationally known speakers from the region as well as throughout the United States and Canada. The three-day conference attracted math educators from all levels, preschool through university, to exchange ideas on how

NCTM President, Francis "Skip" Fennell and AMTNJ President, Alexis Kopperman

The conference was Enlightening! I now have a better understanding of the Focal Points. There was a lot of misunderstanding from the media. That was my main focus in coming today. Paul Ordog, Mathematics Supervisor, Delran Public Schools

Above: Mr. Jan Ives, AMT-NJ Past President Deborah Ives and AMTNJ Members at Large, Barbara Van Den Berg and Dianna Soppala. *Right:* NCTM Media Relations Manager, Gay Dillin meets with AMTNJ Newsletter Co-Editor Jeanne Maskel**l**

Top: AMTNJ Community College Liason and AMTNJ Co-Treasurer Diane Fortuna Above: Maria Pankin from Orange, Alysa Schuhalter from Newark , "Speaker" and author, Ray Charles and Member at Large Nadine Williams

We were so impressed that all of the sessions and conversations are about mathematical understandings – not about the 'tricks'.

Laura Gray, Amy Garcia, Fifth grade teachers, Norfolk Public Schools, Virginia.

Cyndy Montes, AMTNJ Corresponding secretary.

Top: Conference participants are engaged in a graphing calculator demonstration. Middle: Linda Treilman from Pennington demonstrates the use of the wireless slate with the Smartboard. Above: AMTNJ Member at Large LeeAnn Gennet.

Top: Speaker and author Matt Larson, Middle: NCTM Executive Director, James Rubillo with NCTM Past President Cathy Seeley and NCTM President Francis (Skip) Fennell. Above: Chairs, Jeanne Maskell, Barbara Van Den Berg, John Hammett II

students learn math and to take a look at new ways to solve old problems.

"Mathematics teaching is a demanding job, which gets more complex as teachers strive to meet the diverse needs of their students and of their profession. The regional conferences provide teachers with opportunities to grow as learners and help their students become the best that they can be", said NCTM President Francis (Skip) Fennell. "The conferences also afford an opportunity for both new and experienced teachers to share ideas, develop new ones, and think creatively about how to support mathematics learning for all students."

Top left: Angelo DeMattia, past Max Sobel award winner with current recipient, Dr. Crown. Top Right: AMTNJ Member at Large, Angela Napiello-Ivory at the hospitality suite Right: Current TCNJ Education Students, Rashmi Ray from Princeton, Jennifer Bullock from Cream Ridge , Kimberly Stavac from Philadelphia and Lori Cook from Pennington

"Volunteering was easy. It feels good to be a part of the team." Jennifer Petagno, Math Coach, Pemberton Township School Distric**t**

It's fun to spend a day with people who love math as much as I do!
Lori Cook, The College of New Jersey

Above Left: Speaker Paul Lawrence Above Right: Volunteers from Pemberton Township School District, Danielle Strother, Jennifer Petagno and Sharon Gaines from Right:Former AMTNJ President Eric Milou, speaker Pamela Brett and AMTNJ 1st Vice President, Doug Smith

Former AMTNJ Scholarship Winners:
Where Are They Now?

Recipient Zalenda Cyrille Helping Youth and Helping the Future

Zalenda Cyrille graduated from Franklin High School, Somerset, NJ and received an AMTNJ Scholarship in 1997. Since then she earned a BS in Mathematics with a minor in Secondary Education from Carnegie Mellon University and a MS in Systems Engineering from Virginia Tech. She is certified to teach in the state of Pennsylvania.

Currently Zalenda works as a systems engineer for Lockheed Martin. Prior to that she was an internal auditor for Lockheed Martin where she audited business processes, financial processes, and Program management processes across the country. Zalenda said, "It was a great opportunity to learn more about business and about the products Lockheed Martin produces worldwide."

In college, Zalenda researched calculus retention, trying to assess how much seniors of various majors retained from their calculus courses. She also did research on *Newton's Method of 3rd Degree Polynomials*. She examined polynomials that have starting points that cause the algorithm to fail.

Systems Thinking was a course that stood out for Zalenda in graduate school. "It had us think outside the current paradigm of cause and effect and root cause analysis. Meaning we looked beyond just finding one ultimate cause for why something occurred. Instead we focused on circular thinking (systems thinking), which is looking at the event as being caused by something else the actual event caused (e.g. A affects B, B affects C, C affects A)."

When we asked Zalenda about her plans for the future she replied: "I am unsure. I am thinking about starting a non-profit to help young boys and girls with self-esteem and confidence. I really appreciated the financial support AMTNJ provided me. I hope to at some point use the knowledge I learned through my minor in education to help our youths. I am not sure if I will work in the school system per se, but I definitely am interested in helping the future generation."

HEADS UP!
Preparing for the NJ State Assessments in Grades 5-8

Winter Regional Conferences
by Connie Kelley

In order to better serve the needs of New Jersey Mathematics teachers, AMTNJ has rescheduled its annual Spring Regional Conferences to January. Middle School mathematics teachers had many questions and concerns with the State Assessments, which are scheduled for March. The NJASK was of particular interest to the teachers. The Winter Regional conferences will offer workshops and sessions on strategies and activities that will assist teachers in preparing their students for these tests.

January 11, 2007 Stockton University. Keynote- Dr. Eric Milou will "highlight the types of questions, the just proficient means, and the content of the grades 5 to 8 assessments in Mathematics. The presentation will discuss how to balance computational understanding with conceptual understanding in middle school mathematics.

January 16, 2007 The College of New Jersey Keynote – Dr. Robert J. Riehs of the Department of Education will present a session entitled " What do Middle School Students Really Think? Commonly observed Misconceptions in Mathematics."

January 19, 2007   William Paterson University Keynote- Dr. Michael Luke on the Department of Education will present a session on "Improving Student Performance on NJ ASK 5-7 by Analyzing Common Student Errors and Test Scoring Procedures.

A full listing of these sessions can be found on our website: www.amtnj.org. Updated schedules will also be available on the day of your regional. A continental breakfast and lunch will be provided and you will have time to discuss suggestions and ideas with your colleagues. Participants will earn Professional Development hours. Registration fee for AMTNJ members is $80 and $110 for non-members. All conferences are from 8:30 until 2:30. (Registrations begin at 8 AM). Registration forms are available online www.amtnj.org.

State Finalists

mathematics and science classroom teachers in grades 7 - 12 in all fifty states for the school year 07-08. For more information on the PAEMST awards program and to access the nomination forms, please check out www.paemst.org.

Back Page Problem Contest

A winner will be randomly selected from all AMTNJ members who submit a correct entry before Jan 30. The winner will receive free registration to the AMTNJ Regional Conference October 07. Send your name, school address, email, and the answers to: Carmen Archetto, Bergenfield HS, 80 S. Prospect Ave. Bergenfield, NJ 07621 or e-mail: carchetto@bergenfield.org

Congratulations to Back Page Winner: Brain Feuer from High Point Regional High School.

1. What is the identity of thirty coins whose value is $1.00?

2. From the diagram to the right of 24 toothpicks, remove eight toothpicks and leave ex-

3. The total surface area of any cube is equal to the sum of the surface areas of each of the six sides. Using as many cuts as need-ed, divide a cube into pieces whose surface area is twice the surface of this 2X2 cube.

Solutions to the September Contest

1. Manhole covers are round so they don't fall into the sewer. If they used any other shape such as a square, the diagonal is longer than the square is cut down the middle. With a circle however, the diameter is the diagonal in any direction you slice it.

2. The number 271 written as the sum of positive real numbers so as to maximize their product is 3+3+3+...(90 times)... +1. This give us the product 3^{90}.

3. The arrangement of these numbers so that adjacent numbers are not in adjacent boxes is:

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  7
4 1 3
6 8 5
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Questions and Solutions courtesy of:
http://www.ocf.berkeley.edu/~wwu/contents.shtml