Math Murmurs

The Association of Teachers of Mathematics in Massachusetts

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The Official Newsletter of the Association of Teachers of Mathematics in Massachusetts
an affiliate of the National Council of Teachers of Mathematics

A Message from the President, Steve Yurek

Inspiration comes in as many forms and in as many ways as there are people. Along with about a billion other people on the planet, I've been awed by the remarkable performances of the world's athletes at the London Olympic Games. We were all probably inspired by the human interest stories such as the sprinter from South Africa who was the first double amputee to compete in the games, or by the town that came together to re-build training facilities that were destroyed by devastating weather so their "hometown girl" could complete her training, or the dozens of other stories that teach us to continue against all odds, or to believe in others and their

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"Follow us on Twitter @ATMIM_Updates to get the latest on upcoming events!"

Two New Directors Elected to the ATMIM Board

submitted by Neelia Jackson

This past spring ATMIM held an election for board members to fill expiring terms. Thanks to all who voted. It was our first online ballot.

Nominees were Nancy Johnson, Hopedale; Christina Joyce, Sudury; Mark Healy, Cambridge. Voting was open for a week online. New board directors elected are Nancy and Mark.

Nancy has been teaching mathematics at Hopedale Junior – Senior High School for the past 18 years and has been head of the mathematics department for the past eight years. Nancy is a strong advocate of the use of technology in the mathematics classroom, and most recently is excited by the potential of the TI-NSpire CAS handhelds and software. Nancy introduced the concept of a Professional Learning Community (PLC) joining the mathematics department and the special education department in order to strengthen mathematics education for all. She received the Blackstone Valley Educator's Most Promising Practice Award and was a state finalist for the PAEMST Award in 2009. Nancy served as a member of the grade 10 MCAS Assessment Development Committee for several years and is a member of NCTM, ATMNE, NCSM, and several math directors groups.

Mark is the Pre-K through 12th grade District Mathematics Coordinator for Cambridge Public Schools where he supports teachers and administrators in developing a rich and rigorous mathematics program that meets the needs of all of their students. He has also worked as Adjunct Faculty at the University of British Columbia and at Lesley University

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Dates to Remember:

October 16, 2012
Dine and Discuss
25 Adin Street, Hopedale, MA
4:00 – 8:00 p.m.

October 24 - 26, 2012
NCTM Regional Conference
Hartford, CT
Early Bird Registration available until Sept. 14th
Check www.nctm.org for information on how a group of 5 or more can save $155 on each registration

"Like us on Facebook to stay updated on upcoming ATMIM events!"

Like

ATMIM Presenter Training Program

submitted by Donald Cameron

Are you interested in speaking at an ATMIM Conference but not sure you know how to go about the process? Are you interested in guiding a promising presenter through the process? ATMIM can help.

ATMIM provides a program to help teachers become proficient providers of professional development to their peers. We will provide those wishing to become presenters with training and a mentor to help you learn to develop and deliver excellent workshops at conferences for your peers. In recent years, we have had presenters go on to make presentations at ATMIM and ATMNE conferences; one has a pending application for presenting at an NCTM conference; and one has made visits to several schools to train the respective mathematics departments in the use of computer software in the classroom.

The program works like this:

• You apply using the simple application that can be found on the ATMIN website. If you have an area in which you are interested--fractions, early childhood mathematical education, technology or any other field--let us know so we can find a mentor with skills and experience to match. If you have a mentor in mind, let us know that too.

• Our committee selects members (about 6 per year) with attention to diversity and experience.

• Our committee identifies mentors and makes matches according to preference, geography, and similar interests.

• You and your mentor will attend an ATMIM conference together. Typically this is the annual winter ATMIM conference. You will meet with others like you who wish to become presenters and you will meet their respective mentors. You will attend one or two of the conference sessions with your mentor.

• Over the ensuing months, in consultation with your mentor, you identify a topic and your goals for a presentation, and develop your presentation in detail.

• You and your mentor will apply to make your first presentation an ATMIM Conference.

ATMIM will provide

• No-cost registration for mentor and mentee to the ATMIM conference you are observing and to the ATMIM or ATMNE Conference at which you present.
• Complimentary 1-year ATMIM membership for member and mentor
• Reimbursement for photocopying and other presentation-related expenses
• Stipend of $100/year for mentors.

What's next?

Fill out the application that can be found on the ATMIM website atmim.net

Return it to: Donald Cameron
Brooks School
1160 Great Pond Road
North Andover, MA 01845
dcameron@brooksschool.org

We have three people interested in becoming presenters and three mentors . They will start their training in the fall. We could use a few more mentees and mentors.

teaching graduate mathematics education courses.

Mark has supported ATMIM and ATMNE through co-chairing the Coaching strand of the 2011 RIMTA (Rhode Island) Annual Conference, and has co-facilitated our "Dine and Discuss" professional development workshops focused on understanding and implementing the new 2011 Massachusetts Mathematics Framework.

As a member of the ATMIM Board of Directors, Mark looks to support our efforts in bringing quality professional development through in-person workshops, as well as through online supports, such podcasts and online community sharing.

Nancy will assume scholarship chair and Mark will co-chair our next conference.

Thanks to Christina who was not elected to the board this time, but has agreed to remain an active member and to volunteer when available.

Nominees are recruited in the winter, so if you have someone in mind, speak with them and let us know of their interest in running in the spring election.

Praise for Massachusetts Mathematics Educators

submitted by Sharyn Sweeney

Listening to the nightly news recently, I was bothered by the news about mathematics education in the United States: how poorly students were doing in math and how little was being done to correct it. It made me wonder why we in Massachusetts are not making a better effort to get the word out that we are succeeding with increasing the mathematics ability of our students and that our Massachusetts students, in fact, compete successfully on important international assessments.

Certainly we, and the rest of the country, are aware that Massachusetts has consistently led the country on NAEP (National Assessment of Educational Progress). We are also near the top on the 2007 TIMSS (Trends in International Mathematics and Science Study), when we participated as a "benchmarking country".

On the 2007 TIMSS, Massachusetts fourth grade students placed fourth, behind only Hong Kong, Singapore, and Chinese Taipei. In the same assessment our eighth grade students placed sixth, in the company of students from Chinese Taipei, Korea, Singapore, Hong Kong, and Japan. It has brought Massachusetts to the attention of the global education community. Unfortunately, this achievement is not one that we celebrate locally. When I worked at the Massachusetts Department of Elementary and Secondary Education (DESE), I frequently responded to inquiries from North American and European countries asking about Massachusetts' mathematics standards and practices so that they could learn from them.

Massachusetts educators can rightly take pride in the achievements of their students. I am not saying that we have the secret, or that the efforts we have made are the only pathway to helping students learn and apply mathematics, or that we should stop innovating, but we should take some time to acknowledge our hard work and success. We should build on what works until every student in every school can reach her/his mathematical potential.

The next time you hear about how poorly the US is doing globally in mathematics, be sure to say, "Not in Massachusetts!"

[Sharyn Sweeney, Retired Coordinator of Mathematics Standards and Curriculum, DESE, welcomes comments and questions at sweeneyeducation@gmail.com]

News from the NCTM Board

Submitted by Anne Collins

Ballots for NCTM president elect will be emailed to all current members in early September. Please consider supporting Steve Leinwand one of New England's dedicated mathematics educators. Although now working in Washington DC, Steve is from Connecticut and a familiar face at many ATMIM and ATMNE conferences.

NCTM is working to develop a digital library complete with videos of high school classrooms which illustrate student engagement in Reasoning and Sense Making. If you are facilitating such a classroom and would like to share a video of your classes kindly contact Mark Ellis, mellis@exchange.fullerton.edu

There are a number of calls for manuscripts for Teaching Children Mathematics, Teaching Mathematics in the Middle School and the Mathematics Teacher. NCTM would appreciate it if classroom teachers would take some time to write and share the wonderful things you are doing in your classrooms with the wider mathematics community. For more information go to: nctm.org/journals

Looking for great problems to freshen your mathematics programs? All members have access to a library of rich, standard-based problems at the NCTM website nctm.org

NCTM has recently published a variety of books and resources to help classroom teachera and administrators implement the Common Core State Standards. Please check the NCTM bookstore for the latest information available.

Save the date for the Hartford, Eastern Regional NCTM Conference Oct. 25–26, 2012 and the Denver Annual Conference April 17 – 20, 2013.

Virtual Tools for Understanding Math Concepts

submitted by Susan Weiss

As we begin a new school year, we are always looking for tools that reinforce the understanding of mathematical concepts. There are now opportunities to use virtual math manipulatives. Using them gives students an opportunity to learn important math concepts, develop verbal-reasoning and activate kinesthetic learning (learning through the sense of touch). In the past year I have been looking for such tools that really work and are open ended.

http://nlvm.usu.edu/en/nav/vlibrary.html (National Library Virtual) has every tool you could want to use in your classroom. I use it for all grades. Activities are listed by topics and grade level. I found that grades given are too restrictive. There are activities suggested for High School grades which are wonderful for first to third graders such as puzzles using addition and subtraction. (I adjust the teaching to show similarities between negative and positive numbers and a tug of war game based around 0: negative is pulling to the left, and positive to the right.) Other activities suggested for the little ones are more appropriate for higher grades.

http://illuminations.nctm.org/Activities.aspx?grade=1&grade=2 is provided by the National Council of Teachers in Mathematics. Great activities (but again you have to decide what is appropriate for your students).

http://www.mathplayground.com/math_manipulatives.html has lots of games. You have to carefully watch your students because there are many links to outside of the site. Most of the activities are in game format.

http://nrich.maths.org/ has great challenging games. If you love using rods (Cuisenaire), there is a wonderful virtual tool.

http://www.learner.org/courses/learningmath/number/session8/part_b/try.html is a tool for using rods. Wonderful questions for higher order thinking.

My most recent find is a creation of Glencoe. http://www.glencoe.com/sites/common_assets/mathematics/ebook_assets/vmf/VMF-Interface.html Really easy to use which makes it attractive.

I am sure there are more. Feel free to share. My contact info:susan.weiss@gmail.com

Steve Leinwand for NCTM President

New England's own Steve Leinwand is a candidate for NCTM President. New England has a great history of representation on the NCTM Board of Directors and Steve will add a powerful voice to this office. He is a nationally known figure who is a Principal Research Analyst at the American Institutes for Research (AIR) in Washington, D.C. and has over 30 years of leadership positions in mathematics education.

Steve has served on the Mathematical Sciences Education Board during the development and publication of "Everybody Counts", as president of the National Council of Supervisors of Mathematics, and on the NCTM Board of Directors where he helped to review NCTM's "Principles and Standards for School Mathematics."

With his election, New England will have supplied NCTM with 2 very knowledgeable, capable and dedicated individuals in Karen Graham (New Hampshire) and Steve (Connecticut).

Problems to Ponder

submitted by Polina Sabinin

(These problems are from NCTM President's corner: Problems to Ponder) Elementary School NCTM Problem to Ponder: October 20, 2011

Water Bucket Conundrum
You are staying at a rural cabin, and the only method to get water is to draw it from a well. A 4-gallon bucket and a 9-gallon bucket are the only containers for carrying water to the cabin. No other markings are on the pails, and you can't do any estimating—you need to supply exact whole number amounts only!

1. Using your addition and subtraction skills, on one trip to the well, how could you bring back exactly 5 gal., 8 gal., 1 gal., or 3 gal.? Find all the amounts you can bring back using the two buckets.

2. If you had 4-gal. and 10-gal. buckets, what exact gallon amounts are impossible?

Middle School NCTM Problem to Ponder: March 16, 2012

It Takes Two to Geo-Tangle!
How many different polygons of area 2 can you construct on a 5 x 5 Geoboard?

High School NCTM Problem to Ponder: June 2, 2010

Does It Matter Which Winner You Saw?
Students at your school have just finished competing in the qualifying round of a nationally sponsored contest on mathematical reasoning and sense making. When the work was scored, it turned out that four students at your school all had perfect preliminary papers—two girls and two boys. The school decided to hold a random drawing among these four students to select two of them to send to the national finals. The drawing takes place in the school auditorium. You show up late to the drawing, just as one of the winners—a girl—is leaving the stage amid cheers.

1. Suppose that the girl that you saw leaving the stage is the first winner. What is the probability that the second winner will also be a girl?

2. Suppose that the girl that you saw leaving the stage was the second winner. What is the probability that the first winner was also a girl?

(See more excellent problems and full discussions of their solutions at
http://www.nctm.org/about/content.aspx?id=26070)

Answers can be found on page 8

NCTM Affiliate Leaders Conference

submitted by Neelia Jackson

The NCTM Affiliate Leaders Conference was held in Atlanta, Georgia August 3 -5. The theme this year was Leadership: Meeting Challenges in a Time of Change. Joan Martin, Membership Chair, and Neelia Jackson, past president, attended. Some time was spent familiarizing ourselves with the Affiliate Services Guide in order to maximize our benefits of being an NCTM affiliate. ATMIM is a Partner Affiliate currently with at least 50% of our membership belonging to NCTM which qualifies us as a member of the Gold Leadership Circle. ATMIM will receive a $5 rebate for each new member who applies for NCTM membership ONLINE; if you renew online, ATMIM receives a $3 rebate. In both cases you must request that the rebate be sent to ATMIM.

As a Partner Affiliate, we are eligible to apply for up to a $3000 grant. The grant would support our efforts to serve mathematics teachers in 3 key ways:

• Foundational priorities of NCTM and the goals of ATMIM;
• Promoting creative projects to make ATMIM more visible to the public and educational partners;
• Building membership and revenues.

As a teacher, there are many MET (Mathematics Education Trust) Awards, Grants and Scholarships available to you for the enhancement of teaching and learning mathematics. If you have never been to a national conference before, there is a travel grant for first time attendees. Check it out at : http://www.nctm.org/resources/content.aspx?id=198. You can also find tips there for writing successful proposals for the MET grants and scholarships.

We encourage all to use the NCTM website. Summing Up has replaced Math Notes setting forth multi-layered tasks. At the conference, a sample Smarter Balanced task produced a lot of conversation. (Massachusetts is not a part of the Smarter Balanced Consortium.)

Joan and I had an enjoyable, productive weekend. We renewed friendships, made new acquaintances and reflected a lot on ways to increase the benefits of ATMIM membership. We have lots to bring to the board for further discussion and you will be hearing more later.

On October 16, ATMIM will hold a Dine and Discuss focused on understanding the new PARCC assessment in Mathematics.

The event will take place at
25 Adin Street, Hopedale, MA
4:00 – 8:00 p.m.
Dinner will be served. To learn about the PARCC Assessment and how to incorporate the new 2011 Massachusetts Mathematics Curriculum Framework into one's curriculum is encouraged to attend.
More information on registration for this event will be available
shortly at the ATMIM website www.atmim.net

PARCC and the New State Assessment System

Submitted by Mark Healy

In the 2014-2015 school year, Massachusetts plans to move their current MCAS assessment system to the new PARCC Assessment. PARCC (Partnership for Assessment of Readiness for College and Careers) is a consortium of 23 states working together to develop a common set of K-12 assessments in English and Math anchored in what it takes to be ready for college and careers. These new K-12 assessments will build a pathway to college and career readiness by the end of high school, mark students' progress toward this goal from third grade on and provide teachers with timely information to inform instruction and provide student support. Once developed, Massachusetts will decide which forms of the PARCC Assessment to adopt for their own assessment system and implement those pieces starting in September 2014.

(President's Message continued from Page 1)

power to help, or to … and the list goes on.

It got me thinking about how these athletes train and the mindset that permeates their lives. The divers and the gymnasts train by practicing the same routine over and over, tweaking little things that will make perfection easier to attain. While they are continually exercising to improve strength and agility, it is all funneled into "the routine" that must be performed flawlessly. On the other hand, the soccer, volleyball and basketball teams also practice by doing drills-seemingly endless repetitions of the same actions. But once the game begins, each bounce of the ball often changes what should have been or what could have been, into a situation that requires them to react to that situation – to be adaptive to the unexpected.

As mathematics teachers, there are times when we need to be a gymnast's coach and at other times we need to be the basketball coach. Our lesson plans are prepared for a perfect world and sometimes our mathematical choreography earns us high grades, but very often, we must come to grips, often after the first few minutes of class, that our lesson plan must morph into a plan B. The unexpected bounces of the mathematical ball may require us to become creative in ways that may cause our true genius to surface. How many times have you heard a sportscaster call a play "brilliant" because the athlete turned a play doomed to failure into an unexpected success? While every team needs players who can be successful with the routine plays, the great teams have players who can perform the routine plays, and who can also be brilliant when the situation demands it. It's the same for us: we need to be excellent – day in and day out – but we also need to be ready to be brilliant from time to time.

Most of us have advanced degrees in mathematics or mathematics education and we are well-prepared to be excellent. How can we prepare for (or maintain) brilliance? Talk with your colleagues, attend a workshop or a conference, take a class or earn another degree. Keep your eyes and ears open for Professional Development in all its forms. To be at the top of their game, neither the gymnast nor the basketball player has an easy road to travel, but that doesn't matter---they've got their eyes on the prize.

Best wishes that 2012-2013 is your best year yet!

Congratulations to Three Hall of Fame Inductees

Submitted by Joe Caruso

During the 2001-02 academic year, the Board of Directors of the Association of Teacher of Mathematics in Massachusetts voted to create the Massachusetts Hall of Fame for Mathematics Educators to honor outstanding colleagues in their midst. Charter members were inducted in 2001. New members are selected from a group of nominees by members of the Hall of Fame.

We heartily congratulate our newest three very deserving inductees, Nancy Buell, Doug Holley and Neelia Jackson. For complete information on the Hall of Fame and instructions as to how to nominate a colleague, go to atmim.net and click on educator awards.

Nancy Buell

Nancy Buell's career as a mathematics educator began in the late 1960s as an elementary teacher / computer specialist for the Boston Public Schools. A decade later she began her service as an elementary teacher / mathematics specialist for the Brookline Public Schools. This association lasted for 18 years until her appointment as the K-5 mathematics curriculum coordinator for the Westwood Public Schools. Nancy has also been a model student by her formal education which includes degrees from Boston University, Goucher College in Maryland, Lesley University as well as numerous graduate credits from Mount Holyoke College. For over 40 years, students, teachers and parents have directly or indirectly reaped the benefits of being associated with Nancy and all that she has to offer in mathematics education. Her dedication and involvement in professional activities and organizations makes one wonder if she slept only on odd number days. Nancy was a teacher participant in the NSF sponsored Big Ideas Project that developed selected individuals to be curriculum leaders promote the big ideas in elementary education, student learning and teaching practice. Her work in this project was the basis for the material found in the publication Developing Mathematical Ideas (DMI). Professional development seminars soon grew from her work in DMI and that later resulted in presentations at a number of NCTM and NCSM annual meetings as well as ATMIM meetings. Nancy was a key contributor in the development of the first and second editions of the Investigations in Numbers, Data and Space curriculum materials. Nancy served as a field tester for this material and provided a great deal of information and feedback that was of great value for the development and dissemination of this nationally acclaimed teaching tool. Nancy has been associated with numerous mathematics workshops and presentations locally, regionally, nationally, for teachers, leaders, and parents. She was a developer and presenter of three series of parent workshops featured in Schools and Families: Creating a Math Partnership (Scott Foresman). Nancy also served as a host for classroom visits by teachers, community members, and reporters who wanted to see inquiry-based mathematics teaching in action and was the featured teacher in articles in the New York Times and the Boston Globe, and featured guest of the Math Medley radio program. For many years, Nancy has made significant contributions as a member of the Mathematics and Science Advisory Council of the Massachusetts Board of Education, a member of the Assessment Development Committee and Standard Setting Committee, grade 3 mathematics, Massachusetts Department of Elementary and Secondary Education, as well as working as a member of the group that is selecting, reviewing, and modifying tasks and problems to align with the Common Core State Standards for the Illustrative Mathematics Project. This is an arduous, grinding, time consuming but necessary task in reforming mathematics education. In 2002, Nancy received a Presidential Award for excellence in elementary mathematics teaching. This prestigious award is best summarized in a statement from Susan Jo Russell letter of support, "Nancy has been a seeker of knowledge, willing to reflect on and learn from her own practice, both as a classroom teacher and as a facilitator of professional development, and also eager to learn from others. Throughout her career as a mathematics educator, Nancy's work with students, teachers and parents are all components of her vision to make education reform a reality in Massachusetts as well as on a national level.

Doug Holley

For the past 45 years, Doug Holley has been an active and productive mathematics educator. Three of these years have been in Ohio and the past 42 here in Hingham, Massachusetts. From 1970 through 2001 Doug taught at the junior high school, middle school and high school levels. In 2001, Doug was appointed to the position of Director of Mathematics for the Hingham Public Schools and he has held this position for the past eleven years. It is noteworthy to say that Doug has taught every mathematics course that is offered in the Hingham Public Schools and that includes courses at the remedial, regular, college prep and honors levels. Doug is a summa cum laude, mathematics major graduate of Oberlin College in Ohio. He also has advanced degrees from Harvard Graduate School of Education and Northeastern University. In 2009, Doug earned a National Board of Professional Teaching Standard Certificate. In his career as a mathematics educator, Doug has been a master teacher, an outstanding departmental leader, and a knowledgeable spokesman for mathematics education. One cannot help but notice Doug's exemplary subject matter expertise and his deep involvement, many contributions and personal commitment to mathematics education regionally as well as statewide. Hingham Superintendent of Schools Dot Galo, herself an outstanding mathematics educator, says of Doug "in his quiet manner, Doug does not always tout his many achievements. In fact, I doubt that he is as impressed as I am when I look back in print to his many accomplishments." Among his accomplishments are development of an MCAS Skills and Strategies course for the weakest test takers and it has been noted that every Hingham High School student has passed the MCAS in time for graduation. He has

successfully modeled team-teaching techniques with special education teachers so that their classrooms were more productive, interesting and displayed sound mathematical principles. As the mathematics leader in Hingham, Doug shares his expertise with all teachers by offering concrete suggestions to help with daily and long range planning, enhancing classroom presentations, promoting student involvement and holding students for a shared responsibility in their own learning. As Director of Mathematics, Doug is responsible for coordinating curriculum in grades K – 12. He also is responsible for supervising 24 teachers, including two elementary mathematics specialists and teaches a modified schedule at the middle school and high school level. During Doug's administrative tenure, Hingham High School continues to have the highest mean SAT scores in mathematics in Southeast Massachusetts as well as having every student pass the MCAS in time for graduation. Doug is an active member of NCTM, NCSM, ATMIM, a member of the Executive Board of the Mathematics and Computer Science Collaborative, a professional development organization based at Bridgewater State University. He is a member of BAMS, treasurer of the Southeastern Massachusetts Mathematics Chairpersons Association and Math League, and Massachusetts Mathematics Association of Teacher Educators (MassMATE).. He is also a member of Phi Delta Kappa and ASCD. Doug has been a presenter and workshop leader for ATMIM, NCTM, Mathematics and Computer Science Collaborative, and ATMNE. Among his publications are: "An Audiotutorial Approach to Algebra," in the New England Mathematics Journal, "Graphing Parabolas," Mathematics Teacher, co-author with Steve Olson, and co-author of Mathematics for Technology, Laboratory Investigations (Introductory Level), a curriculum development project of the Applied Mathematics and Science Department at Wentworth Institute of Technology. Doug has assisted other school districts as a member of the New England Association of Schools and Colleges visiting teams. He has been a member of the Steering Committee for Hingham High School, a member of visiting teams to Wallingford, CT, Georgetown, MA; Maynard, MA, Tyngsborough, MA, Stoneham, MA and West Boylston, MA. Doug has a reputation as an inspiring, demanding, and talented educator.

Neelia Jackson

Neelia Jackson's career as a mathematics educator spans over 40 years with the last 25 being in Massachusetts. Much of her formal education including being a math major and science minor was completed in Ohio. She continued to broaden her background via graduate courses at Portland State University, Harvard University's Graduate School of Education, Northeastern University and Tufts University. Neelia has a broad range of instructional experience that includes teaching at Hanscom Air Force Base, The Community Learning Center in Cambridge, Concord-Carlisle Regional HS as a METCO Math Tutor, Eastern Nazarene College as an Adjunct Professor, Senior Instructor of the NITE Program at Cambridge College and most recently as a Mathematics Teacher and Secondary Mathematics Coach for the Boston Public Schools. She has taught mathematics from Grades 6 through high school and classroom situations that included special education and bilingual students. Neelia's experience in a wide variety of classroom teaching roles as a mathematics educator has made her a very valuable addition in the mentoring and student teaching programs of Lesley University, Boston University and Harvard University. Many young interns and student teachers have reaped the benefits of her classroom expertise, knowledge and understanding as they forged careers in education. From the onset, Neelia was determined to make a difference as a mathematics educator in the Boston Public Schools. She was knowledgeable in her subject matter, creative in her approach to teaching, thoughtful in her execution of lessons and curriculum, and caring and dedicated in her interactions with students, colleagues and parents to insure a quality mathematics program. Throughout her career as a mathematics educator, Neelia took advantage of professional development opportunities to enhance learning in her classroom and she became the ideal messenger to promote sound mathematical learning in her classroom as well as those of her colleagues. She used technology to engage and challenge her students. Thinking was a valued classroom characteristic and participation by all was expected. Neelia was recognized by school administrators and peers alike as a leader and she headed a mathematics professional development team whose purpose was to promote sound mathematics instructional practices in the classroom. Neelia became a consultant and workshop leader and instructor for Texas Instruments in using the graphing calculator as a important learning tool in the classroom. She has served Texas Instruments as a local, regional and national instructor in a variety of mathematical venues. Neelia has also been a Teachers Teaching with Technology presenter for NCTM and ATMIM. For many years, Neelia has been a member of ATMIM and served as President from 2009 – 2011. In addition, she also served that organization in the capacity of chair or co-chair for numerous spring and winter conferences. She has been a teacher leader for PALMS and served EDC in the CME project, the Project Transition and Algebra 1 Training Project. Neelia has also been involved as a Mathematics Coach for Northeastern University's MathPower program and the Contemporary Mathematics and Technology for Mathematics Teachers at Boston University. Neelia has made and continues to make a difference in the teaching and learning of mathematics. She has demonstrated effective leadership, knowledge, enthusiasm, organizational skills, interpersonal and management skills throughout her career as a mathematics educator.

Answers to Problems to Ponder from page 5

Elementary School. 1. Any whole number amount from 1 to 13 gallons is possible. (For example, to get exactly 1 gal. fill the 9 gal. container. Pour 4 gal. from the 9 gal. container into the small container, leaving exactly 5- gal. in the 9 gal. container.. Dump out the small container. Pour 4 more gallons from the 9 gal. container into the small container, leaving exactly 1 gal. in the 9 gal. container.)2. Only even numbers from 2 to 14 gallons are possible.

Middle School: Still counting. Send your solutions to: polina.sabinin@bridgew.edu.

High School 1. 1/3 if the second winner is drawn after the first one leaves the stage. 2. Give arguments that ½ is correct. Give arguments that 1/3 is correct.

High School Extension: What if you were passing the auditorium when you saw the girl applauded and did not know if she was the first or second winner?