



Math Murmurs

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



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PRESIDENT'S MESSAGE



Nancy Johnson, ATMIM
President

Looking back at the presidents before me, I am honored and humbled to represent this organization, one that promotes quality mathematics teaching and learning as well as active professional collaboration. If you browse our site, ATMIM.net, join us on [Facebook](#) and [Twitter](#), you will see evidence of how we continually work to accomplish the outcomes of our Mission Statement – the first of which is to provide for the interchange of evolving ideas and current research involving the teaching of mathematics and its applications.

There is so much information out there, on the internet, on Facebook, on Pinterest, and on Twitter. How can this organization help to serve you better? We are beginning this year with a quick survey that should help us better determine what you are looking for. Please take a few minutes out of your busy schedule to complete the survey when it hits your inbox.

As teachers, we must also be learners. Reflecting on my teaching career that began in the mid-seventies, I am certain that my teaching style, my pedagogy, has evolved because of the many professional development opportunities that I have been able to attend. I have learned so much from workshops, taking online courses, participating in webinars, searching for highly respected websites, reading books by mathematics educators and researchers and most importantly by the desire to constantly improve my practice in order to provide the best possible mathematics education for my students.

This year, ATMIM is focusing on providing you with resources and professional development opportunities that we can collaborate on and discuss in our journey to becoming even better mathematics educators. One initiative that ATMIM is planning to pursue this year is a book study. On Friday, August 28th, I was one of over two hundred to participate in a full day workshop led by Jo Boaler. I was looking forward to this opportunity as I read and re-read Jo Boaler's latest book over the summer, *What's Math Got to Do With It?* The day provided an amazing message, that research shows that **all students can learn math**. Research shows that there is no such thing as being bad in math. Jo modeled researched based teaching techniques as she engaged her audience in rich, low floor - high ceiling activities. After leaving this workshop, I felt energized and excited. I met with my department and showed them the activities on Jo's website, youcubed.org, and we agreed to participate in a

PRESIDENT’S MESSAGE *(continued from page 1)*

7 – 12 initiative, a “Week of Math.” I invite you to look at Jo’s website, to watch her videos, and to join our book study. This is an opportunity for all teachers of math – elementary, middle and high school.

Let’s begin our journey together. ATMIM looks forward to learning from you and I hope you will enjoy learning with us. I encourage you to maintain active, engaged membership in ATMIM. We are excited to welcome all Massachusetts mathematics educators and pre-service educators to our community.

DATES TO REMEMBER

ATMNE REGIONAL CONFERENCE

October 29-30, 2015 Portland, ME
– *Show us your Moxie!*

ONLINE BOOK DISCUSSION

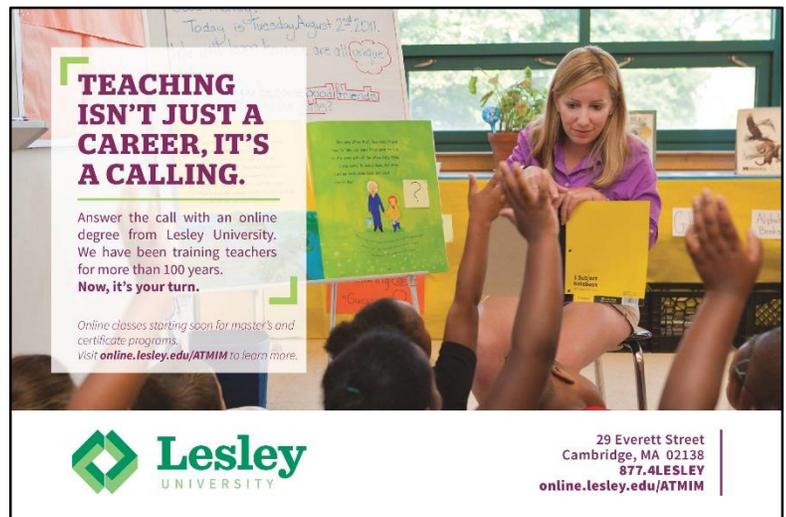
What’s Math Got To Do With It? An eye-opening book by Jo Boaler
November 1, 2015 – Start reading Chapter 1
See ATMIM.net for entering the discussion

ATMIM Winter Conference

January 14, 2016 Hopedale, MA

ATMIM Spring Conference

Date and place to be determined soon



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Professional Development Resources

Are you looking for good professional development resources?

Consider the *New England Mathematics Journal!*



Moving Principles into Actions: Understanding the Challenges and Promise of Principles to Action – May 2015

Classroom Assessment to Achieve the Common Core Standards for Mathematical Practice – May 2014

Mathematics Coaching – Implications for Change- May 2013

Envisioning Effective Implementation of the Common Core Standards for Mathematics - May 2012

Exploring the Richness of Geometry via Technology – May 2011

And Many More Issues at: <http://www.atmne.net/>

For more information or to purchase issues contact:
atmne@keene.edu

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BOARD MEMBER UPDATE

Submitted by Steven Rattendi, Past-President

Every year we welcome new members to the Board of Directors and we have other individuals that shift into new positions. Below is an outline of the changes for this year.

WELCOMING A NEW BOARD MEMBER: SANDRA OLLERHEAD

This year ATMIM welcomes one new member to its Board of Directors. Sandra Ollerhead joins the board with 19 years experience teaching high school mathematics in which she has worked with students of all abilities and levels. She is a graduate of UMASS Amherst with a BS in Mathematics Teaching and received an MAT in Special Education from Bridgewater State University. Sandra currently teaches at Mansfield High School where she was selected to serve as a member of the district's STEAM (Science, Technology, Engineering, Arts, and Mathematics) Vertical Team. She is devoted to making connections in the curricula within the various STEAM disciplines by creating multi-disciplinary projects.

Sandra has already taken on responsibilities with the Board including thinking of ways to reach out to parents in Massachusetts as a means of supporting their understanding of the mathematics content and techniques used in classrooms today.

SHUFFLING VETERAN BOARD MEMBERS

In July, Nancy Johnson, began her two-year term as President of ATMIM shifting me into the role of Past-President. At the same time, Alison Mello began her new role as President-Elect, and Filiberto Santiago-Lizardi began his first year as an elected Board Member after serving one year as an appointed Director. We are also lucky to have Steve Yurek remain with us on the board. Steve will be Co-Chair of the ATMNE Fall Conference when we next hold it in Massachusetts.

NEEDING NEW BOARD MEMBERS!

With Alison Mello's shift to the role of President-Elect, her Director position is now up for grabs. The board will be appointing an individual to this position within the coming month.

Every year, the ATMIM Member gets to vote on various positions for the board. There are always two Director Positions available. This year, the positions of Treasurer and NCTM Representative will also be up for election. That's four positions!

If you are interested in the current vacancy or in running for a position for next year, please contact me via email: Steven_Rattendi@newton.k12.ma.us. We need your leadership and participation to make ATMIM the best organization possible for Mathematics Educators in the State of Massachusetts!

MEMBERSHIP REPORT

Submitted by Joan Martin

Presently we have 250 + active members of ATMIM. With the ability to electronically join or renew one's membership, we are hopeful that our numbers will increase.

We are enthusiastic with the increase in the number of elementary school memberships, which allows teachers in a single elementary to become ATMIM members. The importance of early, sustained and excellent mathematics learning has taken center stage in the discussion of improving mathematics education. If you are one of our elementary school math educators – keep up the good work! If you are one of our middle or senior high math teachers, or are a math coordinator in a school system, you may want to encourage the elementary schools in your district to consider joining us. It is a great use of \$25.00 (for the entire elementary school) to support teachers of mathematics in elementary schools!

ELEMENTARY BUILDING MEMBERSHIP

**** \$25.00 (USD)****

Bundle (unlimited)
Subscription period: 1 year
No recurring payments

This membership covers all PreK-5 teachers in a given school building. After registering, you will be sent an e-mail with instructions on submitting the names and e-mail addresses for the teachers to be covered from your school.

NCTM REPORT

Submitted by Susan Weiss

NCTM HAS PREK-8 SCHOOL MEMBERSHIPS

To purchase multiple memberships, the process for an organization is easy: Call NCTM Customer Care at (800)235-7566, Monday – Friday, 8:00 a.m. to 5:00 p.m. Eastern Time, or send an email to nctm@nctm.org and explain that you would like to purchase multiple PreK-8 School Memberships. PreK-8 School Memberships are only for schools that teach PreK-8 students. They are not intended for junior high schools, high schools, universities, or school district office personnel.

MET GRANT RECIPIENT: JAMIE A. HALL

Mathematics Education Trust (MET) of the [National Council of Teachers of Mathematics](http://www.nctm.org) (NCTM) channels the generosity of contributors through the creation and funding of grants, awards, honors, and other projects that support the improvement of mathematics teaching and learning.

On behalf of the chair of the MET Board of Trustees, Carol A. Edwards, we would like to share some good news with you:

Jaime A. Hall of Hopkinton High School in Hopkinton, Massachusetts, was recently awarded an Enhancing Student Mathematics Learning through the Use of Tools and Technology Grant funded by the Isabelle P. Rucker Fund and NCTM.

NCTM REPORT *(continued from page 4)*

The purpose of this grant is to encourage the innovative use of technology and other tools to "help teachers and students visualize and concretize mathematics abstractions..." (*Principles to Actions*). Only NCTM members who are teaching at the Pre-K–12 level may apply. The MET Board congratulates Ms. Hall for her successful proposal.

The next application deadline for MET grants is November 6, 2015. For more information, please visit www.nctm.org/met.

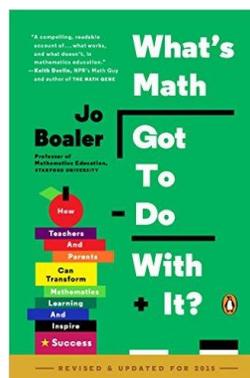
TECHNOLOGY REVIEW – ZOOMBINIS

Submitted by Susan Weiss

Zoombinis (www.zoombinis.com) is a logic game that was very popular years ago. I have missed it greatly since it was such a challenging program. Now it has come back as an iPad app. The games are based on discovering the correct attribute that will unlock the special entrances. You have to select a character that has the attribute that is needed for each journey. I tested it on a pre-K child. It was difficult for her but I think that by the middle of Kindergarten she will be ready for some of the challenges. It is not free but don't let that stop you from testing it and purchasing as many copies as your school can. From the website it sounds as though the goal is to make it available for computer usage in the near future. Please test it and you will see why I am so excited about the revival of a super wonderful program. It is published by TERC, which is known for wonderful math material.

ATMIM ONLINE BOOK GROUP STARTS IN NOVEMBER!

Join us in reading and discussing *What's Math Got to Do With It?*
by Jo Boaler



Visit www.atmim.net to register.

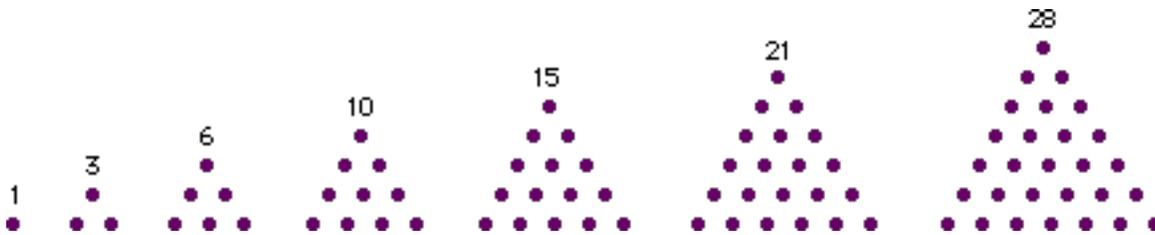
PROBLEMS TO PONDER

Submitted by Polina Sabinin

Questions are adapted from
*Number Treasury*³ (2015) by Margaret J. Kenney and Stanley J. Bezuska
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ELEMENTARY SCHOOL

Triangular numbers can be represented by a triangular array of dots like the picture below.



- Find all triangular numbers less than 300.
- Is the sum of two triangular numbers always, sometimes, never a triangular number?
- Write each integer below as the sum of the least number of triangular numbers.
 - 11
 - 14
 - 34
 - 37
 - 40

MIDDLE SCHOOL

A number n is a *balanced* number if and only if there are as many composite numbers between 1 and n as there are prime numbers.

- Are there any single-digit balanced numbers? If so, which numbers are they?
- Which of the following numbers, if any, are balanced?
 - 14
 - 16
 - 18
- Do you think the number of balanced numbers is unlimited? Explain your reasoning.

HIGH SCHOOL

- Is the sum of any pair of consecutive integers an odd number? Explain your reasoning.
- Is the sum of any three consecutive integers a multiple of 3? Explain your reasoning.
- Given a multiple of 3, how do you find the 3 consecutive numbers whose sum is that multiple of 3.

PROBLEMS TO PONDER *(continued from page 6)***ANSWERS**

1. 1, 3, 6, 10, 15, 21, 28, 36, 45, 55, 66, 78, 91, 105, 120, 136, 153, 171, 190, 210, 231, 253, 276
2. Sometimes
3. a. $10+1$; b. $10+3+1$; c. $28 + 6$; d. $36+1$; e. $36+3+1$
4. 2 is the only single-digit balanced number
5. a. Yes; b. No; c. No
6. The number of balanced numbers is not unlimited because once the number of composite numbers exceeds the number of primes, namely after 14, the equilibrium is skewed and cannot be regained.
7. Yes. $(2n)+(2n-1) = 4n-1$ which is odd.
8. Yes. $n+(n+1)+(n+2) = 3n+3=3(n+1)$ which is a multiple of 3.
9. The multiple of 3 can be represented as $3(n+1)$. Solving for n would give the first of the 3 consecutive numbers.