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Mission: Illinois Council of Teachers of Mathematics is a community of PreK through Post-graduate (PreK-20) educators promoting equitable, high quality mathematics teaching and learning through leadership, collaboration, advocacy and professional development.

Vision: The Illinois Council of Teachers of Mathematics is the state leader in mathematics education. ICTM is committed to sound pedagogy, teacher collaboration, and professional development, ensuring student achievement through engagement in meaningful and rigorous instruction.



President's Message

April 2014 by Robert Mann, ICTM President

Hello Math Fans,

Welcome to April. This month reminds me of a riddle: 'If April showers bring May flowers, what do May flowers bring?' You will have to read this full message to get the silly answer. Even as March, April and May typically bring many showers to Illinois, they also bring many assessments into our mathematics classrooms. In fact, this March and April will bring us the last round of the ISAT and PSAE assessments as next year will mark the beginning of the PARCC assessments in Illinois. That transition brings with it anticipation, anxiety, and apprehension. It also provides classrooms with a new set of standards and expected practices and a fresh start.

As the ISAT/PSAE era comes to a close, it is interesting to see the changes in student mathematics achievement during that time. Amanda Meiners, a graduate student at WIU, has prepared a brief overview of this achievement data and that can be viewed at www.achievementanalysis2014.pbworks.com. This summary chart provides the percentages of students who met or exceeded standards in mathematics as measured by the ISAT since 1999 and the PSAE since 2001. It includes data from the 2013 tests but, of course, not yet from the 2014 tests. While the percentage for 11th graders has remained conspicuously consistent at about 52% over that time span, the percentage for students in other grades has steadily increased over the years, reaching percentages in the mid to upper 80s by 2012. However, those results dipped in 2013 with percentages ranging from 55 to 60. As more common core related items have been added to the ISAT, it is reasonable to expect the scores for this year to be even lower.

2014 is the year that No Child Left Behind established as the target year for 100% of students meeting standards. However, it is more likely that, in mathematics, those percents will be much closer to the 50% mark. What does that mean for us as teachers in Illinois? We should expect initial results from these new assessments to be lower than those typically seen over the last 10 years. The higher standards, the more challenging assessments, the innovative format, and general issues around the transition all indicate that initial scores will be low.

This simply provides us a starting point from which to grow, developing new strategies and tools for helping students meet these challenging standards. Parents, school boards, and policy makers need to realize that as higher targets have been set, more time will be needed to construct the classrooms, knowledge, and ways of thinking needed to reach those loftier goals. Instead of worrying about test scores themselves in 2014 and even 2015, districts will need to focus on how to improve those scores in 2016 and beyond. Curriculum needs to be aligned to the common core standards, lessons need to incorporate the mathematical practices, and classroom assessments need to model the higher levels of questioning seen on the PARCC items. The new standards and assessments represent a significant shift in how students are expected to learn mathematics and how they are expected to express their knowledge. This shift will take time to implement and the results of this implementation will take time to grow and to materialize as improved achievement and test scores.

The standardized assessments will continue to rain on us this Spring and in the future. I encourage

Continued on p. 2



## Board Chair Report

by Kara Leaman, ICTM Board Chair

Hi, ICTM friends! With the inclement weather we've had across the state this winter, using a virtual medium for our February 15, 2014, board meeting was a great alternative to travel. We have used the online format for this mid-winter meeting for the past several years.

Thanks again to MSTE at UIUC for hosting our meeting.

Ann Hanson has retired from the position of Executive Director but will continue her role as Conference Chair, as the Board approved. Thank you for continuing your work with the annual ICTM conference, Ann. Plans to reassign remaining duties Ann fulfilled as Executive Director will be developed as a smaller committee of Board members meets to analyze current needs of ICTM in the areas of technology and public relations. It was also decided to host the Annual Conference two years in the northern region of the state and one year south of I-80 beginning with the 2014 and 2015 conferences in Tinley Park.

*President's Message, continued from p. 1*

you though to look beyond the scores and to focus instead on the potential growth for our students. April showers bring May flowers and March and April assessments bring new opportunities. We now have the chance to plant new seeds and, with time, see how they emerge and grow. Be patient, be persistent, and, as the standards suggest, be perseverant. Characteristics much like those of the pilgrims who embarked on a journey to this continent seeking new challenges and opportunities. Which, by the way, is what Mayflowers bring... Keep smiling, keep teaching, and keep progressing!



Dr. Bob Mann  
ICTM President  
rr-mann@wiu.edu

## ICTM List Serve Update

### Do you receive e-mails from the ICTM List Serve?

If you answered no, then consider subscribing today. Subscription to the List Serve is a benefit of your ICTM membership. E-mails sent through the List Serve often give information about upcoming conferences, details about professional development opportunities, information about ICTM awards and scholarships, links to math related websites and news articles, and questions/announcements from other math teachers around the state. All subscribers to the List Serve can send out messages to the recipient list. To sign up, visit [www.ictm.org](http://www.ictm.org) and sign-in using the member login on the left side of the homepage. You can create a new account if needed using your ICTM member number. Once logged in, select 'List Serve' under the Membership tab. Here you will find simple directions about subscribing and how to send messages. Subscribe today!

The Board approved the members of the ICTM Awards selection committee. The deadline for this year has passed, but it's never too early to start thinking about next year! Consider nominating a fellow ICTM member for one of these respected awards.

New ways to provide support to Illinois mathematics teachers through cyberspace continues to be a focus for the Board. The ICTM website has had great improvements in the last year, including videos of presentations from past annual ICTM conferences and a place for presenters to share resources from their sessions. Our featured speaker for the 2014 Conference, Dan Meyer, even praised our efforts with a shout out for ICTM via Twitter! In addition, the Board approved the copyright and open access policies set forth by the Illinois Mathematics Teacher (IMT) editors. Future IMT articles, as well as select back issues, will be available on the members-only section of the ICTM website. Finally, beginning with the December 2014 newsletter, a motion was made and passed for the ICTM newsletter to be in electronic form only.

I feel very fortunate to work with this dynamic team of educators who aspire to strengthen our organization. I look forward to our next Board meeting in Bloomington on April 26, 2014.

# VOTE VOTE VOTE

**THE POLLS  
ARE OPEN!**

From the ICTM Bylaws (excerpted):

*Every Regular Member, every Distinguished Life Member, every Retired Member, and every Student Member of the Council shall be entitled to vote in any election held by the Council.*

*The annual election shall be made by mail or electronic ballot... Official ballots listing the nominees for President-Elect (in appropriate years) and those Directors to be elected shall be mailed or emailed to members... Marked ballots shall be returned to the Secretary of the Council to be held until the time of official count.*

*The results of the election shall be announced by the President of the Council in the spring, immediately following the election. All those elected in the Annual Election shall assume the duties of their respective offices immediately after the adjournment of the Annual Business Meeting of the Council.*

To participate in the ICTM Board Elections, please watch your e-mail inbox for an e-mail linking you to a unique online ballot, which will enable you to cast your votes electronically. Please complete the online ballot survey no later than April 25, 2014. ICTM members for whom no valid e-mail address is on file, will receive a printed ballot postcard via U.S. Mail. Please mark your selections on the ballot postcard, add a 49¢ stamp, and drop it in the mail no later than April 25, 2014.

Please be sure to return your ballot for the 2014 ICTM Board Elections. Your vote is your voice in ICTM, and the annual elections are your best opportunity to shape ICTM into an organization that best serves YOU.

# ICTM President-Elect

**Name:** Margaret Dickow



**Current Position:**

Teacher and Mathematics Department Chairman, Willowbrook High School, Villa Park, IL (1992–present)  
Responsible for guiding and developing programming, curriculum, and support for 16 department professionals in a building of 2000 students, and for teaching high school mathematics courses.

**Past Experience:**

- Part-time instructor; College of DuPage, Glen Ellyn, IL (1992–1993)
- Part-time teacher; Tefft Middle School, U-46 School District (February–June 1992)
- Substitute teacher; Addison District 4 and DuPage District 88 (1991–1992)
- Teacher; Perkiomen Valley High School, Gratersford, PA (1984–1989)
- Teacher and Department Chair; Washington Jr. High, Mehlville School District, St. Louis, MO (1977–1984)
- Teacher; Woodrow Wilson Jr High, Decatur, IL (1973–1976)

**Education:**

- Type 75 Certificate; North Central College, Naperville, IL
- MAT; Webster University, St. Louis, MO
- BA; Monmouth College, Monmouth, IL

**ICTM Involvement and Activities:** Member, Conference presenter

**Other Professional Activities:**

- Member of ISBE Model Math Curriculum team
- Member of COD Curriculum Alignment Committee
- Past president of Math Department Heads of the Western Chicago Suburbs
- Presenter at Metropolitan Math Club Conference of Workshops
- District Work: chair of building staff development committee; presenter of district staff development programs; co-chair of building North Central Accreditation committee; member of district curriculum council; facilitator of process to create feeder school curriculum maps.
- Attendee of numerous conferences and workshops (NCTM, T-Cubed, NCSM Leadership Academy, ASCD)

**Affiliations:**

- ICTM
- NCTM
- Math Department Heads of the Western Chicago Suburbs
- MMC
- ASCD
- IFT

**Honors:**

- TE Rine Secondary Teaching Award 2012

**Name:** George Reese



**Current Position:**

Director of the Office for Mathematics, Science, and Technology Education (MSTE) in the College of Education at the University of Illinois at Urbana-Champaign.

**Past Experience:**

- University of Illinois in Urbana-Champaign (UIUC), 1994–Present. I have taught pre-service mathematics teachers and the technology of mathematics education.
- High school mathematics teacher at the Santa Fe Public Schools and the Santa Fe Indian School in Santa Fe, NM (1986–1994).

**Education:**

- PhD in Curriculum and Instruction, University of Illinois at Urbana-Champaign
- B.S. Mathematics Education, University of New Mexico
- B.A. Liberal Arts, St. John's College, Annapolis, MD

**ICTM Involvement and Activities:**

I have been a member of ICTM since coming to Illinois in 1994. I served as a member of the Board of Directors for ICTM (Director-at-Large) for the three-year term from 2009 to 2012. During that time, I began to populate the ICTM YouTube channel with videos of featured speakers at the Annual Conference. My colleagues at MSTE and I also maintain the ICTM listserv.

**Other Professional Activities:**

As Director of MSTE, I work in partnership with other staff at UIUC and with K–12 school districts to facilitate the integration of new technologies into mathematics and science instruction. Most recently, our team began a partnership with a local elementary school to bring computer programming into the classroom. I have led numerous state grants for professional development involving technology and mathematics.

**Affiliations:**

- ICTM
- NCTM
- Illinois Mathematics Teacher Educators, 4-year College Representative (Illinois section of the American Mathematics Teacher Educators)
- American Education Research Association
- Association for Supervision and Curriculum Development

**Honors:**

- Winner of the UIUC Campus Award for Public Engagement (2002)

# ICTM Director At-Large

**Name:** Zachary Herrmann



**Current Position:**

Mathematics Teacher at Evanston Township High School (2008–present)

**Past Experience:**

Mathematics Teacher at Fremont High School, Sunnyvale, California

**Education:**

- University of Illinois at Urbana Champaign, Ed.M. Education Administration and Leadership
- Stanford University, M.A. Secondary Teaching
- University of Illinois at Urbana Champaign, B.S. Mathematics

**ICTM Involvement and Activities:**

- Presented at the ICTM Annual Conference and Meeting three times
- Presented at the Metropolitan Math Club Conference two times

**Other Professional Activities:**

- Founding director of the Complex Instruction Consortium
- Helped plan and facilitate eight Complex Instruction Consortium Workshops

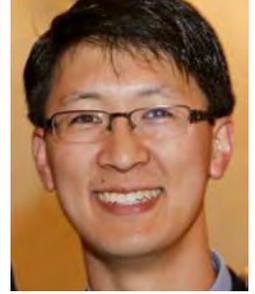
**Affiliations:**

- ICTM
- Complex Instruction Consortium
- Knowles Math and Science Teaching Foundation Senior Fellow

**Honors:**

- ICTM Promising New Teacher Award, 2011–2012
- Evanston Township High School Early Career Teacher Award, 2010–2011
- Illinois State Board of Education Early Career Educator Award of Excellence, 2010–2011
- Knowles Math and Science Teaching Foundation Fellow, 2007–2012

**Name:** Daniel Kang



**Current Position:**

Department Chair, Lindblom Math and Science Academy, Chicago

**Past Experience:**

Math Teacher, Lindblom Math and Science Academy in Chicago, 2008–present

**Education:**

- M.A.T. in Secondary Education, National Louis University
- B.S. in Electrical Engineering, University of Illinois, Champaign-Urbana
- ICTM Involvement and Activities: Member

**Other Professional Activities:**

- Editor for City of Chicago Math League Algebra 1 contest
- Co-coordinator for QED – Chicago’s Youth Math Symposium

**Affiliations:**

- ICTM
- MAA

# Director, EC-6

**Name:** Carly Morales

**Current Position:**

Math instructional coach for ROE 17 for school districts in McLean, Dewitt and Livingston Counties



**Past Experience:**

- Professional Developer for ROE 17 (2010–present)
- 6<sup>th</sup> grade teacher – LeRoy School District (2009–2013)
- 1<sup>st</sup>, 2<sup>nd</sup>, 4<sup>th</sup>, 5<sup>th</sup> & 6<sup>th</sup> grade teacher – U46 in Elgin & Bartlett Schools (1998–2008)

**Education:**

- B.S. in Elementary Education from NIU
- M.S. in Curriculum and Instruction from Aurora University
- M.S. in Educational Administration from Illinois State University.

**ICTM Involvement and Activities:**

- Current member and has attended the ICTM annual meetings

**Other Professional Activities:**

- Member of the ISBE math curriculum writing team
- Speaker at Raising Student Achievement

**Affiliations:**

- ICTM
- NCTM

**Name:** Karen Moore

**Current Position:** Math Specialist at Woodland Intermediate School in Gurnee (2005–present)



**Past Experience:**

- 4<sup>th</sup> Grade Teacher, Gurnee, IL (1996–2005)
- 4<sup>th</sup> Grade Teacher, Wilmette, IL (1995–1996)
- Kindergarten Aide, Lincolnshire, IL (1994–1995)

**Education:**

- MA in Curriculum and Instruction from National Louis University
- BA in Elementary Education from Illinois State University

**ICTM Involvement and Activities:** Current Member

**Other Professional Activities:**

- Member of the ISBE Model Curriculum Committee (4<sup>th</sup> Grade)
- Attendee of NCTM National Conferences

**Affiliations:**

- ICTM
- NCTM

## ICTM Director 5–8

**Name:** Eric Bright

**Current Position:**

8th Grade Math at Charleston Middle School (2004–present).

**Past Experience:**

7<sup>th</sup> Grade Math at Danville North Ridge Middle School (2001–2004).

**Education:**

- BA in Mathematics with Minor in Secondary Education from University of Illinois Champaign-Urbana
- MA in Secondary Mathematics Education from Eastern Illinois University

**ICTM Involvement and Activities:**

- Member
- Presenter at multiple ICTM conferences including the Annual Meeting, SIU Regional, and EIU Regionals.

**Other Professional Activities:**

- Professional development provider for local school districts and the ROE on Common Core, Best Assessment Practices, Designing Assessments, Writing Curriculum, and Best Practices.
- Professional development provider and curriculum author for IMSA Fusion program.
- Presenter at American Institute of Mathematical Sciences (AIMS) conference.
- Author of self-published 8th Grade Common Core textbook and Accelerated Algebra 1 at the 8<sup>th</sup> Grade textbook.

**Affiliations:**

- ICTM
- NCTM

**Honors:**

- ICTM Middle School Mathematics Teacher award winner (2012).
- IMSA Teacher Recognition (2007).



**Name:** Jason Pound

**Current Position:**

Instructional Coach, 8<sup>th</sup> grade Math Teacher at Urbana Middle School (2005–present).

**Past Experience:**

Math Teacher, grades 7–8 at Urbana Middle School (2005–present)

**Education:**

- BA from Eastern Illinois University

**ICTM Involvement and Activities:** member

**Other Professional Activities:**

- ISU Illinois Math and Science Partnership on Teaching Next Generation Science Standards
- UIUC Chancellor's Academy
- UIUC ILLINI Technology Partnership
- IMSA Fusion instructor
- Dimension U instructor

**Affiliations:**

- ICTM

**Honors:**

- ICTM Middle School Mathematics Teaching Award ICTM (2011)
- Central Illinois Golden Apple Award (2008)



# ICTM Director Community College/University

**Name:** Cheng-Yao Lin



**Current Position:** Associate Professor (tenured), Southern Illinois University Carbondale

**Past Experience:**

- Assistant Professor, Southern Illinois University Carbondale, August 2004–2010.
- Visiting Assistant Professor, Illinois Wesleyan University, Normal, IL, January–May, 2004.
- Graduate Teaching Assistant/ Research Assistant, University of Illinois at Urbana-Champaign, Fall 1998–Fall 2003. [Professors Kenneth Travers and Arthur Baroody]
- Mathematics Teacher, National Jen-Ai School, Chang-Hwa, Taiwan, Spring 1995–Summer 1997.

**Education:**

- Ph.D. in Mathematics Education, University of Illinois at Urbana-Champaign

**ICTM Involvement and Activities:**

- Program Chair, Annual Conferences on Teaching Mathematics, ICTM/ Southern Section (SIUC, Carbondale, IL)
- Papers presented at Annual Conferences on the Teaching of Mathematics (Charleston, IL):
  - Teaching Addition Across Different Cultures (2013);
  - Multiplication Algorithms (2009);
  - Pythagorean theorem proofs (2008).

**Other Professional Activities:**

- Associate Editor: Journal of Mathematics Education
- Associate Editor: Electronic Journal of Mathematics and Technology
- Annual Convention Committee, School Science and Mathematics Association.
- Membership Committee, School Science and Mathematics Association.
- Session chair at meetings of SIG-Research in Mathematics Education (SIG/RME) and American Educational Research Association (AERA)

**Affiliations:**

- ICTM
- Southern Illinois Mathematics Council (SIMC)
- NCTM
- MAA, AERA, SIG/RME, Psychology in Mathematics Education (PME), School Science and Mathematics Association (SSMA), Chinese American Educational Research and Development Association (CAERDA)

**Name:** Peter Wiles



**Current Position:**

Associate Professor at Eastern Illinois University, Department of Mathematics and Computer Science (2007–present)

**Past Experience**

- Assistant Professor at University of Arizona, Department of Mathematics and Computer Science (2001–2007)

**Education:**

- Ph.D University of Wisconsin-Madison

**ICTM Involvement and Activities:**

- Speaker at Annual Meeting and Conference (5 times)
- Advisor for Math Energy, an ICTM affiliate organization for undergraduates focused on K–8 preservice math teaching
- Volunteer at ICTM regional mathematics competitions

**Other Professional Activities:**

- Conference Chair for the annual conference on teaching mathematics at Eastern Illinois University
- Presenter at national and international conferences: American Educational Research Association (AERA), NCTM, North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Association of Mathematics Teacher Educators (AMTE), Congress of European Research in Mathematics Education (CERME)
- Author in Math Education publications
- Reviewer for *Teaching Children Mathematics* and *Mathematics Teaching in the Middle School*

**Affiliations:**

- ICTM
- Illinois Mathematics Teacher Educators
- NCTM
- AMTE
- PME-NA
- TODOS: Mathematics for ALL

# CONFERENCE CORNER

Watch for updates and exciting information about the next ICTM Pre-Conference and Annual Meeting.

ICTM 2014 Pre-Conference and Annual Meeting:

## Unprecedented Changes: Remarkable Opportunities

October 17–18, 2014  
Tinley Park Convention Center  
Tinley Park, IL

- **Featured Speaker: Dan Meyer!**
- **Earlybird registration:** register early to save money!
- **Convenient access** from Interstates 55, 57 & 80, and for bus, train and air travelers!
- **Two-day schedule:** Friday morning Pre-Conference; Annual Meeting proceedings Friday afternoon through Saturday afternoon!
- **All-inclusive location** - no trekking between buildings for events!
- **Free Parking!!!**
- **Free wifi access** throughout the conference facility!
- **Convenient access** to nearby restaurants & shopping!

**Help us fill your vendor hall!** We're offering an option this year for vendors who want to offer a conference presentation. If you know a fantastic math/technology vendor who should be represented at the 2014 ICTM Annual Meeting, refer them to <http://www.eiu.edu/adulted/ICTMConference.php> for more information, or send us a referral with their contact info at [ictm\\_services@eiu.edu](mailto:ictm_services@eiu.edu)

Plan now to see

**Dan Meyer** at the  
2014 Pre-Conference and Annual Meeting!



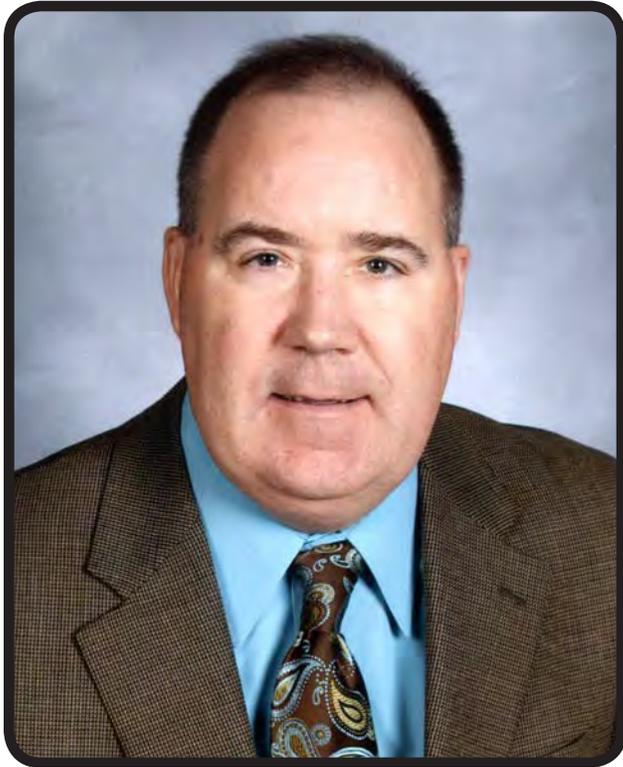
Find out why Dan Meyer has been recognized as one of Tech & Learning's 30 Leaders of the Future and an Apple Distinguished Educator. Visit Dan on the web at <http://mrmeyer.com/>, and follow his blog at <http://blog.mrmeyer.com/>

**Plan now to attend!** Our featured keynote presenter, Dan Meyer, is generating lots of excitement about the upcoming event. **It's not too early** to start the processes you have to complete in order to attend this amazing professional development opportunity. Get your bid in early for financial assistance and time off from your school. Commit now to participate in the 2014 ICTM Pre-Conference and Annual Meeting!

We're looking for the best math/technology vendors who want to be represented at a benchmark event for math educators featuring one of the nation's biggest Math Ed celebrities. Be sure to tell your favorite vendors to check us out!

# IN MEMORY

## *Dan Greenfield*



The ICTM Board was saddened to learn of the sudden passing of Daniel (Dan) Greenfield on March 28, 2014. Dan was the lead math teacher for 8<sup>th</sup> grade at John F. Eberhart Elementary School in Chicago, IL, where he had been positively influencing students since 2004. In 2010 he was recognized by the Chicago Foundation for Education as one of the Top 25 Teachers of All Time. Previously he taught at Evergreen Academy Middle School in Chicago, IL.

A National Board Certified Math Instructor, Dan was also actively involved with NCTM, MMC, and ICTM. He was the recipient of the ICTM Excellence in Teaching Middle Grades Mathematics Award in 2009. Dan was actively serving as the Director for grades 5–8 on the ICTM Board at the time of his passing.

A teacher and mentor in the Chicago Public School System for over 20 years, Dan touched the lives of countless students and colleagues. His dedication to meaningful math instruction and his “can do” attitude inspired those he touched. He leaves behind a wife and two children, and will be deeply missed. ICTM thanks Dan for his many contributions to his students, schools, and the broader math teaching profession.

**NORTH CENTRAL COLLEGE**  
NAPERVILLE, ILLINOIS

North Central College in Naperville, Illinois is offering three exciting math camps for your middle school students!

- American Mathematics Competition 8 (AMC 8), ages 10-14, June 16-20, 2014
- Math and Art, ages 10-13, June 16-20, 2014
- Girls and Math, ages 12-14, July 21-25, 2014

Please visit us online for more information at [www.northcentralcollege.edu/summercamps](http://www.northcentralcollege.edu/summercamps).

**WKU** WESTERN KENTUCKY UNIVERSITY

**AP Summer Institute: June 23–27 at WKU**

Learn how to increase engagement and raise test scores in your Advanced Placement Calculus AB, Calculus BC, or Statistics class during the region’s most well established Advanced Placement Summer Institute. For those who have attended an Institute in the past, we offer experienced workshops for Calculus and Statistics in addition to the beginner workshops. In the past 31 years, The Center for Gifted Studies has trained more than 8,000 educators from six continents. Learn more or download an application at <http://www.wku.edu/gifted/ap/>.

# Antsy Factoring

In the story *One Hundred Angry Ants* (Author: Elinor J. Pinczes), one hundred ants keep rearranging themselves in rectangles that have whole number sides in order to try and get to a picnic as fast as possible. We want to look at the mathematics of what the ants were doing on a smaller scale.

1. A new picnic is taking place and the ants are on the march again. However, this time only 12 ants are available to march. Use tiles (I think it best not to use real ants for this one!) and make different sized rectangles to show all the possible ways the ants can march to the picnic. Record your formations below.
2. Across the park, another picnic is taking place and 24 ants are on the march. Use tiles (I think it best not to use real ants for this one!) and make different sized rectangles to show all the possible ways the ants can march to the picnic. Record your formations below.
3. For 24 ants, can you make a rectangle that has 5 ants across the front? Explain.
4. What are the different formations if only 13 ants are available? Is there another number of ants that would give the same number of formations?
5. What are the different formations if only 9 ants are available? How about 16? Is there anything different about these rectangles in comparison to the ones made before?
6. Fill in the numbers 1 through 16 into the appropriate boxes below based on the number of factors of the number. For example, the number 4 has three factors, 1, 2, and 4. Because of this, we mark that it has three factors. Discuss patterns you see.

		Number of Factors									
		One	Two	Three	Four	Five	Six	Seven	Eight	Nine	Ten
<b>Number</b>	<b>1</b>										
	<b>2</b>										
	<b>3</b>										
	<b>4</b>			x							
	<b>5</b>										
	<b>6</b>										
	<b>7</b>										
	<b>8</b>										
	<b>9</b>										
	<b>10</b>										
	<b>11</b>										
	<b>12</b>										
	<b>13</b>										
	<b>14</b>										
	<b>15</b>										
	<b>16</b>										

# Proof in Advertising

Martin Funk and Julie Bar, New Trier High School

Are you looking for a fun and creative way to use chains of reasoning before introducing 2-column proofs in Geometry? This engaging activity allows students to use their creativity while giving them an opportunity to practice writing their own chains of reason.

Start by showing one or two different Direct TV commercials that involve funny statements which lead to ridiculous conclusions. A link to one such commercial is included on the following student activity sheet, but it is easy to find others. One such commercial states:

*“When you pay too much for cable, you throw things. When you throw things, people think you have anger issues. When people think you have anger issues, your schedule clears up. When your schedule clears up, you grow a scraggly beard. When you grow a scraggly beard, you start taking in stray animals. And when you start taking in stray animals, you can’t stop taking in stray animals. Stop taking in stray animals. Get rid of cable and upgrade to DirectTV.”*

The class then writes this argument as a 2-column proof starting with “You pay too much for cable” as our given.

## Advertisement’s Argument:

Statements

1. You pay too much for cable.
2. You throw things.
3. You have anger issues.
4. Your schedule clears up.
5. You grow a scraggly beard.
6. You take in stray animals.
7. You can’t stop taking in stray animals.

Reasons

1. Given
2. Paying too much for cable  $\Rightarrow$  Throw things
3. Throw things  $\Rightarrow$  Anger issues
4. Anger issues  $\Rightarrow$  Schedule clears up
5. Schedule clears up  $\Rightarrow$  Grow a scraggly beard
6. Grow a scraggly beard  $\Rightarrow$  Take in stray animals
7. Take in stray animals  $\Rightarrow$  Can’t stop taking in stray animals

Conclusion: If you pay too much for cable, you can’t stop taking in stray animals.

You can then have a discussion on validity and sound arguments:

*If the logic in the commercial is valid, then why isn’t the conclusion true?* Guide students to notice when our proof reasons are not true (if you start to grow a scraggly beard, you start to take in stray animals), our conclusion is not necessarily true. Proofs need both *valid logic* and *true reasons* in order to prove our conclusion to be true.

*How does the advertisement’s argument compare to our geometric proofs?* Since our mathematical proofs will use postulates, definitions and theorems as our reasons, all of which are true, it will be important for students to make sure the logic is valid in order to derive a true conclusion.

After discussion, give students an opportunity to write their own chains of reasoning and create fun, crazy arguments. Provide students with the following student activity sheet as a guide. This project can be used to introduce the idea of formal proof, as a fun extension or “bonus problem,” or as a real-world application of a logical argument.

The student worksheet for this project can be found on the next page.

*Continued on p. 12*

## Proof in Advertising Activity

### Description:

For this project you will demonstrate your understanding of logical arguments by creating an absurd argument similar to the argument form found in the Direct TV commercials.

Here is an example: <http://www.youtube.com/watch?v=KoG009xH6-U>

### Directions:

In your argument, you begin with a reasonable premise, such as:

*You have cable and can't find something good to watch.  
(You will need to make up your own premise).*

Begin the argument by using your premise to form a conditional statement, such as:

*If you have cable and can't find something good to watch, then you get depressed.*

Continue the argument as a sequence of conditional statements each using the conclusion of the current conditional as the premise for the next conditional. For example, this argument could continue:

*When you get depressed, you attend seminars.*

*When you attend seminars, you feel like a winner.*

*When you feel like a winner, you go to Vegas.*

*When you go to Vegas, you lose everything.*

Continue the argument to the last conditional:

*If you lose everything, you sell your hair to a wig shop.*

and use your sequence of conditionals to draw a humorous conclusion:

*Don't sell your hair to a wig shop. Get rid of cable tv.*

Your argument should contain at least 6 conditional statements followed by the conclusion of the argument. Illustrate each conditional statement with an image, such as a drawing, a picture from the internet, a photo, a magazine clipping, etc. Have fun with it!

### Grading:

- You must have at least 6 conditional statements and a conclusion. These statements should be original and follow the prescribed format.
- Each conditional statement and the conclusion should be illustrated.
- Everything in your project must be school-appropriate.
- Your project must be neat and readable. One easy option is make each statement a separate page on a powerpoint or word document.

# ***NOMINATE NOW*** ***for the*** ***2015 ICTM AWARDS!***

Please take a moment to think about a teacher who makes a difference. This person may be a colleague, an administrator, a university professor, or even your own child's teacher. Please consider nominating that person for an ICTM award. We are all aware that teaching is a lot of hard work without much compensation; one way to recognize excellence in our field is to nominate an excellent teacher. As well, it is fun and rewarding to participate in the nominating process.

The details of the awards are available on the ICTM website, <http://www.ictm.org/ictmawards/>. The process is simple. The deadline is March 30 of each calendar year, and nominations can be sent as a .pdf file or mailed to the addresses provided on the website. I look forward to reading about the accomplishments of many of the educators throughout the state.

I know that many of you who have read this are saying, "Yes, that is a good idea. I have been meaning to nominate that person." Or maybe you're saying, "Yes, but it's too late for this year." Please start the process right now, even if it's for the 2015 Awards. The nominating process is an important part of emphasizing the best parts of our profession in a moment when much of the general public wants to believe many of us are incompetent. So please: commit to submitting a nomination and help to honor a fellow educator.

## ***NCTM Reminder:***

Help your professional organizations support each other! When renewing your *National Council of Teachers of Mathematics* Membership online, don't forget to checkmark the *Affiliate Rebate* box and designate ICTM as your affiliate organization. NCTM's Affiliate Rebate program provides a per-member rebate to ICTM based on this feedback. Your attention to this detail helps provide support for your local professional organization.

## **MATH ENERGY** **for Pre-Service Teachers** **at Eastern Illinois University**



In 1991 the Math Energy Club was established at Eastern Illinois University. In the fall of 1992, Math Energy became an affiliate group of Illinois Council of Teachers of Mathematics (ICTM) and received our affiliate group charter from the National Council of Teachers of Mathematics (NCTM) at the 1994 NCTM meeting at Indianapolis.

**Math Energy** is a pre-service teacher organization which meets monthly to give members the opportunity to attend presentations by various professionals speaking on math related topics in the field of education. Math Energy focuses on a hands-on approach to teaching math. All grade and ability levels are explored at our meetings.

Monthly meetings will be scheduled for Spring Semester. More information can be found on the Math Energy website:  
<http://mathenergy.wordpress.com>

## ***Illinois Mathematics Teacher Journal***

### *call for articles*

The editors invite submissions from both new and experienced authors, and accept articles on a range of topics, including:

- innovative classroom activities and lessons
- applications to the classroom of pedagogical research and best practices
- examples of implementing standards
- reviews of recent books on pedagogy
- any other articles that will support the professional development of ICTM members

Please send submissions to [imt@ictm.org](mailto:imt@ictm.org).



# Your ICTM Board Representatives

<b>Robert Mann</b> (2012–15) President Western Illinois University	<b>Ann Hanson</b> Executive Director Columbia College	<b>Craig Cullen</b> (2013–16) Director, University/ Community College Illinois State University	<b>Daniel Greenfield</b> (2013–16) Director 5–8 Eberhart Elementary School
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Please contact any of the following ICTM board members if you have any questions or concerns:

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Randy & Sue Pippen

Activities: Marshall Lassak  
Martin Funk  
Julie Bar

Conference Info: Bob Williams  
Dave Wartowski

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School of Continuing Education

## Why You Should Join

- Connect with other educators working to improve mathematics education.
- Contribute to mathematics education.
- Stay current about regional, state and national meetings.
- Attend conferences at reduced rates.
- Receive the *ILLINOIS MATHEMATICS TEACHER*, a journal with articles about teaching and learning mathematics at levels from kindergarten to college.
- Receive the *ICTM BULLETIN*, with classroom activities, news and information about professional development opportunities.

## CALL FOR ARTICLES

### *Can you help?*

The Illinois Mathematics Teacher is always looking for new reviewers and articles. If you would like to volunteer as a reviewer or have an article to submit, please contact the editors at [imt@ictm.org](mailto:imt@ictm.org).

We look forward to hearing from you.

For ICTM Membership Services, please contact:

### ICTM Membership

c/o School of Continuing Education  
Eastern Illinois University  
600 Lincoln Avenue  
Charleston, IL 61920-3099

phone 800-446-8918 or 217-581-5116

e-mail [ictm\\_membership@eiu.edu](mailto:ictm_membership@eiu.edu)

Join or Renew Online at: <https://ictmservices.org>

## ICTM MEMBERSHIP APPLICATION FORM

Clip out this page and mail it with your payment to the address below.

- New Member     
  Reinstatement     
  Renewal     
  Change of Address

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Regional Office of Education

NCTM Member?       Yes

No

**Profession: (check only one)**

- EC-3 Teacher
- 4-6 Teacher
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- Sr. High Teacher
- Special Education Teacher
- Community College
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- Administration
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- Student
- Institutional Member
- Other
- Other

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- Assessment
- Certification
- Multicultural Education
- Teacher Evaluation
- Professional Development
- Scholarship
- Technology
- Research
- Math Contest

Please note, the ICTM membership year ends on November 5, and memberships are not prorated. However, memberships purchased between April 1 and November 4 will be active for the full membership cycle purchased, PLUS a grace period between the date of purchase and November 5, the beginning of the next full membership cycle.

Dues for ICTM Membership:

**Regular member**

- one year \$35
- three year \$100
- five years \$160

**Student Member**

(This rate is reserved for full-time, baccalaureate pre-service students only)

- one year \$20

**Retired Member**

- one year \$30

**Institutional Member**

- one year \$100

(The name of classroom teacher in the blank at the top of this page will be used as the contact teacher for the institutional membership. Please make sure to indicate a contact person.)

If recruited as a new member by a current member, please list the recruiter's name \_\_\_\_\_

Mail this application and a check or money order payable to: **EASTERN ILLINOIS UNIVERSITY**

ICTM Membership  
 School of Continuing Education  
 Eastern Illinois University  
 600 Lincoln Avenue  
 Charleston, IL 61920-3099

Total Enclosed: \$ \_\_\_\_\_

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**NCSM Annual Conference**

New Orleans, LA  
April 7–9, 2014

**NCTM 2014 Annual Meeting and Conference**

New Orleans, LA  
April 9–12, 2014

**ICTM 2014 Math Contest**

University of Illinois at Urbana-Champaign  
May 3, 2014

**ICTM 2014 Pre-Conference & Annual Meeting**

Tinley Park, IL  
Pre-Conference      October 17, 2014  
64<sup>th</sup> Annual Meeting      October 17–18, 2014

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