



Illinois Council of Teachers of Mathematics

BULLETIN

Serving Teachers of Mathematics and Computer Science

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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. As a respected leader in mathematics education at the school, district, state, and national levels, ICTM serves as a collaborative partner to promote the achievement of every student.



President's Message December 2015

by George Reese, ICTM President

Looking Ahead After a Great Conference

October's Annual Conference was a

wonderful opportunity to be re-invigorated by the comradery and pure joy of being around friends and colleagues. Our keynote speakers were wonderful. Two new items on my holiday to-do list are to spend more time with Desmos and to get Jo Boaler's new Mathematical Mindsets. It seems to me that Eli Luberoff and Jo Boaler both emphasized the joy of taking risks, making mistakes, and having fun as we work. I will long remember Dr. Boaler saying after an hour of her presentation, "I want us to do some math now, which makes me happy." The conference committee did a wonderful job in getting us these fine keynoters and organizing the program.

This year's conference saw some new offerings: for the first time there was a poster session and a job fair. The poster session featured 10 posters with a range of topics from Mathematics and Social Justice to Tiling and Tessellation. Many thanks to the presenters, most of whom were students, for helping us get started with this new format. We hope to grow it next year. Both the poster session and the job fair were ideas of ICTM President, now-Past President, Bob Mann. His creative energy and careful diplomacy helped smooth the bumps and keep energy high as we traversed new territory with this conference.

One major change this year was the presence of the Illinois Science Teachers Association (ISTA),

whose conference happened in parallel to ours. Most of the comments that I heard were positive regarding the dual conference format, especially the number of exhibits that ISTA brought with them to Tinley Park. The 2016 Conference will be in Peoria, and we hope to have some sessions there that combine mathematics and science.

As we look forward, not just to the next conference, but to the many events that ICTM sponsors and endorses throughout the year, we will need to address some challenges as well. How can our organization become a more diverse community of mathematics educators and learners? How can we make optimal use of new technologies for communication and collaboration? How can we provide additional value to all our members and their students? These are questions with which I know the ICTM Board of Directors will continue to wrestle, and we will need the help of the membership to get the answers right. Please use the Website, the ICTM listserv, and your connections to individual Board members to communicate your hopes and constructive criticisms. As teachers, I hope we will also be good listeners.

George Reese
ICTM President
reese@illinois.edu

Past President's Message



by Bob Mann
ICTM Past President

Happy Holidays Math Fans!

I hope the season blesses you with productive classrooms and fun festivities. I believe this year's conference was both productive and fun and I want to thank all of you who attended and presented at this event. I also want to thank the conference team, led for 28 years now by Ann Hanson, the ICTM board, the many volunteers, and ISTA leaders for helping make the 65th annual conference a success. The past two years have seen many changes in our conference format and design and it took the work of many talented and dedicated individuals to make it all work—thank you all very much!

As a reminder, conference resources and session materials can still be found at <http://www.ictm.org/annualmeeting/SessionResources.asp>. We hope you find this resource and the other ideas and materials at www.ictm.org valuable for you and your students.

Next year's conference will be Oct. 7 and 8 in Peoria and again should provide tremendous opportunities for networking and for high-quality professional development. I encourage you now to mark those dates on your 2016 calendar and to consider presenting at our 66th annual conference. We will again be working with ISTA to provide mathematics and science sessions at the same venue and I expect that the venue will again be alive with energy, excitement, and enrichment—so plan now on ICTM 2016!

In the meantime, keep in touch with ICTM on our website, facebook page, list serve, and via twitter (#ICTM2016) and keep your synapses snapping, your Desmos dazzling, and your mindset (and that of your students) growing! Have a fantastic 2016!

Board Chair Report



by Jackie Murawska, ICTM Board Chair

Greetings ICTM members! My name is Jackie Murawska and I teach mathematics at Saint Xavier University in Chicago. I'm excited to be your new Board Chair for 2015-16. At the August 22, 2015 Board meeting, we expressed gratitude to our three outgoing board members—Kara Leaman, Adam Poetzel, and Jennie Winters—for their substantial contributions to ICTM. Both Rich Wyllie and Lannette Jennings will gratefully continue in their

positions as treasurer and secretary, respectively. We also welcomed three new board members:

- Jeremy Babel, Director 9-12
- Denise Brown, Director EC-6
- Sendhil Revuluri, Director At Large

Most of the board's time at the last meeting was spent on the ICTM Annual Conference. We discussed the affiliate luncheon, business meeting, student volunteers, interview fair, poster session, and maximum participants due to space limitations. The board approved a complimentary breakfast on Saturday for all conference attendees. Much discussion ensued about re-evaluating contracts with different vendors for conference registration, publication, and membership. A motion was approved for a subset of Board members to investigate options for contracting membership management.

In addition, the board discussed in detail the status of conference preparation thus far with the Illinois Science Teachers Association (ISTA), as 2015 was the first year that ICTM and ISTA held their conferences concurrently in the same venue. Discussion included planning, financial factors, and potential advantages of having a co-conference or a joint conference, and possible effects on membership and conference attendance. Next year's ICTM Annual Conference will be held October 7-8, 2016 in Peoria, Illinois. Marshall Lassak, Conference Chair, will be heading up the conference team to plan the event.

Lastly, the Board also discussed nominations procedures, ways to encourage listserv subscribers to become members, and updates on the ISBE Model Math Curriculum. The Publication liaison position was changed to a Media and Publications committee, and the new liaison responsibilities are listed below. Please feel free to contact any of these Board members if needed.

Liaison Responsibility	Name	Email
Affiliates	Craig Cullen	cjculle@ilstu.edu
CCSSM Updates	Jennie Winters	jwinters@lake.k12.il.us
Awards	Eric Bright	ericbright2002@yahoo.com
Contests	Eric Bright	ericbright2002@yahoo.com
Government Relations	Carly Morales	carlymorales19@gmail.com
Membership	Peter Wiles	pswiles@eiu.edu
NCTM Representative	Jackie Murawska	murawska@sxu.edu
Publications	Anita Reid Martin Funk	areid@lewistown97.net funkma@newtrier.k12.il.us
Scholarships	Randy and Sue Pippen	surandan@aol.com
Website	Adam Poetzel	apoetzel@illinois.edu
ISBE – Mathematics & Science Partnerships	Jennie Winters	jwinters@lake.k12.il.us

The next Board meeting will be held at the Bloomington Holiday Inn Express and is scheduled for December 5, 2015.

PLAN NOW:

ATTEND
YOUR
LOCAL

ICTM Regional Conference

SIU-Carbondale

Thursday
February 18, 2016

For more information, contact:
jbecker@siu.edu

WIU-Macomb

Friday
April 8, 2016

For more information, contact:
d-lafountain@wiu.edu

www.wiu.edu/cas/math/teachers_conference

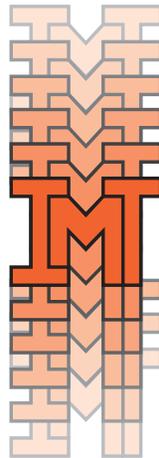
Illinois Mathematics Teacher Journal

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.



ICTM Listserv Update

*Do you receive e-mails
from the ICTM Listserv?*

If you answered no, then consider subscribing today. Subscription to the Listserv is a benefit of your ICTM membership. E-mails sent through the Listserv 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 Listserv can send out messages to the recipient list. To sign up, visit www.ictm.org/ListServe.htm and complete the short online form. You can choose to unsubscribe from the List Serve at any time. Subscribe today and join the conversation!

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 Musings
with Martin

Q: Of the ten numbers with both motive and opportunity, the police only brought in 7, 5, 3, and 2 for questioning. Why?

A; They were the prime suspects

Do You Know Someone Deserving of an ICTM Award?

Friday afternoon, October 23, many Illinois mathematics teachers had a wonderful experience as the ICTM awards were presented. The recipients were recognized by their colleagues for their excellence, and those in attendance were able to affirm what it means to be a truly outstanding educator. Once again, it was inspiring to experience the good feelings that went out to these distinguished colleagues.

Now it is time to identify the next group of award winners for 2016. The first step in the process is nomination. That requires a few people to take the time to identify the strengths and contributions of someone that they work with or someone who has taught them or their children. The sad part of this year's award ceremony was that no one received the outstanding elementary math teacher or outstanding post-secondary teacher award because no one was nominated for either. I know there are many deserving teachers. So do you. Please take the time to help them get the recognition they deserve. Instructions for nomination are on the ICTM web site. Nominations do not need to be submitted until the last day in March, 2016, but now is a good time to decide who you are going to nominate and get organized to do it. If you nominated someone in the past who is still eligible for the award, and that person did not get the award, all you need to do is ask us to reactivate the nomination. You can add to it if you

like. Many of the recipients of recent awards were nominated in previous years and did not get the award at that time.

ICTM AWARDS AVAILABLE

- Elementary Mathematics Teaching Award
- Middle School Mathematics Teaching Award
- T.E. Rine Secondary Mathematics Teaching Award
- Post-Secondary Mathematics Teaching Award
- Max Beberman Mathematics Educator Award
- Lee Yunker Mathematics Leadership Award
- Distinguished Life Achievement in Mathematics Award
- Illinois Promising New Teacher of Mathematics Award
- Fred Flener Award: Engaging Students in Mathematics Beyond the Classroom

Specific award criteria and application forms can be found on the ICTM website, at www.ictm.org. With your help, ICTM can continue to recognize excellent mathematics educators in Illinois!

Award application deadline is March 31, 2016

John Benson and Eric Bright

ILLINOIS COUNCIL OF TEACHERS OF MATHEMATICS

SCHOLARSHIPS IN MATHEMATICS EDUCATION

As Scholarship Co-Chairs, one of our favorite things to do is give away scholarships to promising young mathematics teachers either in their first year of teaching or their senior year in college. They apply in the spring while they are still juniors or seniors if they are mathematics majors or elementary education majors with a concentration in mathematics.



Maria Christina Gianni

This year we awarded \$1500 each to Maria Christina Gianni from the University of Illinois at Champaign-Urbana teaching her first year at Gombert Elementary in Aurora, and Amy Wieting from Illinois State University where she is a senior. These deserving young ladies show a great deal of potential to become future ICTM stars.

The scholarship committee would like to thank everyone who donated to the scholarship fund as well as members who assisted in collecting donations. Without your support, ICTM could not give these awards to deserving college junior and seniors. We also would like to thank our readers who help evaluate the applications.



Amy Wieting

If you did not donate and would like to, please send a check payable to ICTM Scholarship. The check can be mailed to Sue and Randy Pippen, 24807 Winterberry Lane, Plainfield, IL 60585.

Applications for scholarships may be made by visiting www.ictm.org and click on scholarship. All application information and forms are downloadable. Please reach out and encourage college juniors and seniors to apply for the ICTM Scholarships, due each year in March. There is a downloadable application with fill-in blanks to make it easier.



ICTM 2015 Award Recipients, pictured at left:

Left to right: Tina Novella, Richard Kaplan, Leona Mirza, Martha Reilly, Peter Braunfeld, Martha Eggers, Danyel Larsen

ICTM 2015 Scholarship Recipients, pictured at right:

Maria-Christina Gianna, *University of Illinois at Urbana-Champaign*
and Amy Weiting, *Illinois State University*



ICTM 2015 New Board Officers, pictured at left:

Left to right: Jeremy Babel, *Director 9-12*, Denise Brown, *Director EC-6*,
Sendhil Revuluri, *Director At-Large*

Your ICTM Board of Directors, pictured at right:

Front: Eric Bright, Sendhil Revuluri, Martin Funk, Zach Herrmann

Middle: Lannette Jennings, Anita Reid, Carly Morales, Denise Brown

Back: Bob Mann, Jackie Murawska, Jeremy Babel, Adam Poetzel (retired) and President George Reese

Not pictured: Craig Cullen and Peter Wiles



CONFERENCE CORNER

ICTM 65th Annual Conference:

What's **MATH** Got to Do With It?

WOW, what an event! Thank you to all who attended the ICTM 65th Annual Conference. Jo Boaler and Eli Luberoff gave a dynamic start to two days of professional development, networking and engagement to reinvigorate your math teaching. We hope you enjoyed the event as much as we did!

If you missed this year's ICTM Annual Conference, mark your calendar and start planning now to attend next October 7-8, 2016, when we return to Peoria. Stay tuned to www.ICTM.org for updates and breaking news on highly-anticipated Guest Speakers for the 2016 Annual Conference!



TELL US WHAT YOU THOUGHT!

If you haven't already responded to an email invitation to complete a conference survey, you can do it now at http://eiu.co1.qualtrics.com/SE/?SID=SV_eOMbNRJn89Ca5UN

**Call for
Speakers:**



Illinois Council of Teachers of Mathematics

The Premier Organization of Mathematics Educators in Illinois

***Take Advantage of the
Opportunity to Present!***

In 2016 the ICTM annual conference will be held at the Hotel Pere Marquette in Peoria, IL. Mathematics education has encountered considerable change in recent times and ICTM is here to provide comprehensive effective insights, practices, and activities to effectively deal with these changes.

Please consider joining over 100 other mathematics professionals who are presenting either a 60-minute talk or a 90-minute workshop in Tinley Park. A featured speaker will provide a keynote presentation to open the conference on Friday morning. Presentations and workshops will follow.

**66th Annual ICTM Conference
October 7-8, 2016, Peoria, IL**

Be part of this exciting program and contribute to the mathematics education profession by visiting the ICTM website (<http://www.ictm.org>).

Deadline for proposal submission is March 15, 2016

Access the Speaker Proposal Form at :
<http://www.ictm.org/SpeakerProposal.htm>.

Be a part of this great event. Submit your proposal today!

Introduction to KenKen Puzzles

What is KenKen? KenKen is a puzzle similar to Sudoku. It was invented in 2003 by a Japanese mathematics instructor named Tetsuya Miyamoto. KenKen is a Japanese word for “square wisdom” or “cleverness squared.” Here are the rules:

1. Each square can only contain a single number. In a 3×3 grid, use numbers 1-3. In a 4×4 grid, use numbers 1-4, etc.
2. The numbers cannot be repeated in any row or any column.
3. In any *cage*, set of squares outlined in bold, the digits must combine, in any order, to create the *target number* using the specified mathematical operation (+, -, \times , \div). If there is no operator, just fill in the number provided.

Let's try some! Remember never to guess. If you're not sure, put your choices, called *candidates*, into a square. For example, in either 4×4 grid below, the candidates for the cage labeled **7+** would be 3 and 4.

4+	1-	
	6+	1
2		

Remember:
never
guess!

4×		3÷
	9×	
		2

A number
can be
repeated
in a cage.

2-		3+	2÷
7+	4		
	6×		2-
2	3-		

Doubles
strategy:
put in
candidates

6×	3+	12×	
		6+	4+
3-			
7+		2÷	

Where's a
good place
to start?

KenKen puzzles above courtesy of www.kenkenpuzzles.com

Want more KenKen? You can play anytime for free on the KenKen site www.kenkenpuzzles.com, your teacher can sign up for the free weekly teacher packet through the KenKen site, you can purchase a KenKen paperback puzzle book on Amazon, or you can download a KenKen app on your smart phone. Enjoy!

Share and Share Alike?

Income (In)equality & the Gini Coefficient

The Gini coefficient is a measure of (in)equality in distributions. This task allows students to use visual representations and statistical reasoning to explore how the Gini coefficient works, and apply it to real-world data. The task provokes cognitively demanding problem-solving (SMP1) and reasoning (SMP3) while integrating prior mathematical content (proportional reasoning, graphing, calculating area) with a heavy dose of mathematical modeling (SMP4). The task is most appropriate for high school students, especially in geometry and beyond. It is best done as a two- or three-period activity, with the first period focused on the introductory exercises to help build students' intuition, and the rest to explore using real data. Tools (spreadsheet programs, graph paper, etc.) can be helpful. A longer description, with additional context (and editable to make handouts), and spreadsheets for the intro exercises, are online at <http://goo.gl/3sd00w>.

You may have heard about income inequality in the news. But what makes distributions of income more or less equal? And how is that even measured? In this task, you'll use the tools of mathematics to analyze the equality – or inequality – of distributions of income. You'll start with tools you know (statistics, graphing, area), and then practice using a new tool called the *Gini coefficient*. Finally, you'll apply all of your tools and problem-solving skills to real data.

Introductory Exercises (recommend students work these in pairs, with a discussion following)

Suppose we're examining the distribution of income in a village of ten people.

There are some basic steps that will help us analyze the distribution and draw conclusions:

1. Find the total income, and express each person's income as a *share* (percentage of total)
2. Put these income shares in *order* from least to greatest, then put them in a table
3. Find the *cumulative* share of income, up to and including each person
4. *Graph* these cumulative income shares against the number of people (see *spreadsheets*)

Work with your partner to try these five examples to give you a sense of different possibilities.

1. Every person earns \$50,000.
What is the average income?
What does the graph look like?
This is an example of *perfect income equality*.
2. One person earns \$500,000 and the other nine earn nothing.
What is the average income?
What does the graph look like?
This is an example of *near-perfect income inequality*.
3. Suppose every person earns \$50,000, and then one gets a raise to \$300,000.
What is the new average income?
How many people actually benefited from this change?
What does the graph look like?
Where is it relative to the first and second graphs?
4. Suppose the one person's raise to \$300,000 came out of the others' incomes, so that the average income remains \$50,000.
What is the new income of the other nine people?
What does the graph look like?
Where is it relative to the first and second graphs?
5. Suppose the ten incomes are (in thousands) 32, 36, 40, 44, 48, 52, 56, 60, 64, and 68. What is the average income?
How does the highest earner's income compare to the lowest earner's income?
What does the graph look like?
Where is it relative to the first and second graphs?

[After the discussion, these definitions set students up for the deeper investigation to follow.]

These graphs are called **Lorentz curves**, and let you see the distribution of income in the village. The same tool can show the distribution of income in an entire *country* by lumping people together into ten income bands, or *deciles*, and doing the same

calculations and making the same graphs.¹ Note that the Lorentz curve is always *between* the first two curves (the straight diagonal line for perfect equality, and the very kinked graph for perfect inequality).

The **Gini coefficient** is a way to measure income inequality by turning the Lorentz curve into a single number. It is calculated as a ratio of areas:

$$\frac{\text{area between the Lorentz curve and the curve for perfect equality}}{\text{area between the curve for perfect equality and zero}}$$

Calculate the Gini coefficient for each of the five income distributions from parts 1–5 above. (Keep your work on these exercises; it will help you when you work with real data next.)

[The longer description online has some additional guidance on finding areas, as well as a few different options for the deeper investigation, depending on how much time you have for it.]

Deeper Investigation (recommend students do this stage in pairs or small groups)

You will now work to analyze income distributions from real data from real countries.

1. Select two countries you want to investigate. Explain why you chose these two.
2. What is your best guess about what you will find about their income inequality? Use your knowledge of world events and economics to explain your reasoning.
3. In your own words, briefly restate how the Gini coefficient measures income inequality.
4. Retrieve income data at <https://www.wider.unu.edu/data>.² Pick a year for each country.
5. Use the method of the introductory exercises to construct Lorentz curves for each country.
6. Calculate Gini coefficients for each country and time. (If your initial method doesn't work as well as you'd like, modify your method as needed and think about using technology.)
7. Describe basic patterns or trends you found and summarize the results of your research. Was your initial best guess supported by your research or analysis? Explain why or why not.

Possible Discussions and Extensions

You can discuss some important mathematical ideas (visual representations, strategies for finding areas, how ratios are used as measures, etc.) when students work on the introductory exercises. Once students complete the deeper investigation, there are more directions you could go. Students' data could be pooled to try to draw more general conclusions, or students could continue with their investigation with deeper questions, such as:

- What happens to the Gini coefficient when all incomes double?
- Would your results be the same if you used only five income bands? Only three? If you used twenty? Or one hundred? Or if each individual person was split out?
- What are the good and bad features of the Gini coefficient as a measure?
- Are there other measures of inequality you could devise? When is each measure better, more appropriate, or more informative?
- What if incomes are redistributed? What schemes could reduce inequality and still get the support of most of the population? Are these fair?
- Which is more important, the average income or the inequality of income?
- What income distribution is "right"? (Note that incomes differ for many reasons, including age, education, cost-of-living, and effort, as well as race, wealth, and historical patterns of advantage or disadvantage.)

Some of these questions are more mathematical than others (and some are still the topic of active social science research), but all are further directions in which students could continue.

¹ Academic analyses usually use unit record data (individual people). To make the task more accessible for students without needing a lot of "mechanics" or technology, this task uses decile data (tenths of the population). (The adjustments for this change are intentionally ignored here; they're subtle and won't affect students' conclusions.)

² The database also includes calculated Gini coefficients. You may want to let students see these, or not; they are helpful to quickly identify (potentially frustrating) student computational errors, or to diagnose misconceptions.

Your ICTM Board Representatives

George Reese (2015–17) President University of Illinois-MSTE	Sendhil Revuluri (2015–18) Director-at-Large University of Illinois at U-C	Martin Funk (2013–16) Director 9–12 New Trier High School	Carly Morales (2014–17) Director EC–6 Regional Office of Education #38
George Reese (2014–15) President-Elect University of Illinois - MSTE	Zachary Herrmann (2014–17) Director-at-Large Evanston Township High School	Jeremy Babel (2015–18) Director 9-12 Leyden HS	Denise Brown (2015–18) Director EC–6 Carruthers Elementary School
Marshall Lassak Conference Coordinator Eastern IL University	Craig Cullen (2013–16) Director, University/ Community College Illinois State University	Anita Reid (2014–16) Director 5–8 Lewistown Central High School	
Jackie Murawska (2013–16) Board Chair Saint Xavier University	Peter Wiles (2014–17) Director, University/ Community College Eastern Illinois University	Eric Bright (2014–17) Director 5–8 Charleston Middle School	

Please contact any of the following ICTM board members if you have any questions or concerns:

President

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Champaign, IL 61820
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ICTM Bulletin Volume XXXV
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Directors: Anita Reid/Martin Funk
Submissions from:
Reports: Eric Bright
Martin Funk
Jackie Murawska
Robert Mann
George Reese
Randy & Sue Phippen
Activities: Jackie Murawska
Sendhil Revuluri
Conference Info: Marshall Lassak
Produced by: Eastern Illinois University
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.

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

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

Name _____ Member Number _____

Check preferred mailing address. Please complete BOTH columns.

- | | |
|--|--|
| <input type="checkbox"/> Home
Street Address: _____
City: _____
State: _____
Zip Code: _____
Phone: _____
Email: _____ | <input type="checkbox"/> Work
School Address: _____
City: _____
State: _____
Zip Code: _____
Phone: _____
Email: _____ |
|--|--|

Regional Office of Education

NCTM Member? Yes No

Profession: (check only one)

- EC-3 Teacher
- 4-6 Teacher
- Jr. High/Middle Teacher
- Sr. High Teacher
- Special Education Teacher
- Community College
- College/University
- Administration
- Retired
- Student
- Institutional Member
- Other
- Other

Interests: (check up to three)

- Remedial
- Gifted
- Teacher Education
- 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: \$ _____

2MAR2010



ICTM Spring Regional Conferences

Southern Illinois University at Carbondale Thursday, February 18, 2016

Western Illinois University, Macomb Friday, April 8, 2016

NCSM Annual Conference

San Francisco, CA

April 11-13, 2016

NCTM 2015 Annual Meeting and Conference

San Francisco, CA

April 13-15, 2016

ICTM 2016 Math Contest

University of Illinois at Urbana-Champaign

May 7, 2016

901090

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



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