



OCTM 2011 Annual Conference

- Daniel Brahier, General Conference Chair

The [61st Annual OCTM Conference](#) is coming to Toledo this fall. On October 13-14 Prime Time in Toledo will be held at the [Seagate Convention Centre](#) and the [Park Inn Hotel](#) in downtown Toledo on the Maumee River (yes, 2011 is a prime number!). With approximately 160 keynote, regular (50-minute), and workshop (90-minute) sessions you won't want to miss out! On Wednesday evening, the Ohio Mathematics Education Leadership Council ([OMELC](#)) will have its annual fall meeting at the Park Inn Hotel adjacent (and connected to) the convention center. On Thursday morning, Dr. Phil Daro – a member of the working group of the Mathematics K-12 Common Core Standards Committee – will be presenting a keynote address to assist teachers with making the shift to the new standards. Also on Thursday is a Happy Hour with food and music (at no charge to participants) from 4:00 – 5:00 p.m., with the exhibit hall open until 6:00 p.m. Come and enjoy the exhibits and network with other mathematics teachers. The OCTM Awards Reception then begins at 5:30 with tasty hors-d'oeuvres and a wonderful pianist to entertain you. Awards presentations will recognize some of the outstanding teachers in the state and will conclude by 7:30 p.m. – just in time to go out for dinner or to continue catching up with old friends.

Something brand new this year is called Prime Time. For teachers who are unable to attend the conference during the day on Thursday, it is now possible to attend the conference from 4:00 – 8:00 p.m. only. For those interested in just attending Prime Time, there is a very affordable, reduced cost listed on the registration form. Full conference registrants also have the option of attending evening regular sessions and workshops until 8:00 p.m. Thursday night at no additional charge. FLASHDANCING also re-

The Ohio Council of Teachers of Mathematics

Newsletter

Volume 101 + n



May, 2011

turns again this year. These sessions provide quick glances at different creative uses of technology that are great in the classroom! Brian Ellis – Friday's keynote speaker – will share with teachers the art of teaching mathematics through story telling. Throughout the day, you are encouraged to stop by the exhibit hall to examine new manipulatives and books as well as technology and other resources.

The early bird registration deadline is September 12, 2011. If registration is postmarked by this date you save \$10 on registration fees. Program details are available online at www.ohioctm.org. The full conference program, as well as registration forms and hotel reservation information, will be available at the Web site later in May. Any questions regarding the conference should be directed to Dr. Daniel Brahier by e-mail at: brahier@bgsu.edu. We hope to see you as we celebrate Prime Time in Toledo.

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2011: Prime Time in Toledo

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"It is our turn to seek pre-service and beginning teachers and tell them about the benefits of joining local affiliates, OCTM, and NCTM."

Have you joined a SIG yet? [Click here](#) for more information.

President's Message

- Mark Jaffee, OCTM President

Two Key Messages

There are two messages that I want to convey in this President's column and they are somewhat related. First of all, the fact that you are even interested in reading this column indicates that you probably have a pretty strong commitment to our association and mathematics education in general. Very likely you have been active in your local affiliate, you have been attending the annual conferences, you might even have held or are holding an office on the state level. It is also very likely that what got you started in this activity was the influence of one or two persons who encouraged you to join a local affiliate and the state association and further encouraged you to attend the annual conferences. That's how I got started. Individuals such as Jim Carney and Bob Seavers at Lorain County Community College who introduced me to the local affiliate and Duane Bollenbacher and Dick Little who nearly took me by the hand to the OCTM Conferences were the ones who influenced me. My point is this: Now it is our turn to seek pre-service and beginning teachers and tell them about the benefits of joining local affiliates, OCTM, and NCTM. Furthermore, if they teach in a system with African-American students they should be members of the Benjamin Banneker Association; if the school has Latino students, teachers can benefit by being members of TODOS. Furthermore, anyone who teaches girls can gain a lot by becoming a member of WME, Women and Mathematics Education. By recruiting these new young members we will aid the growth of our association and enhance the professional development opportunities of more of our teachers, consequently improving mathematics education for the youth of Ohio.

The second part of my message is this - Since Junior High I have been president of a number of organizations and each time I have approached the position with a sense of trepidation, anxiety, and in a few cases, fear. I did not experience any of this when I became President of the Ohio Council of Teachers of Mathematics, the most important and challenging office I have ever held. The reason is simple; I am surrounded by such an array of talented and dedicated individuals that I am entirely confident that everything we attempt will be successful. Our Executive Director, Dave Kullman, was, himself, a former President of OCTM. He knows what the job entails, anticipates problems that might arise, keeps me informed of my responsibilities, and carries out a wide range of details in a timely and competent manner. I owe a lot to our Immediate Past President, Kim Yoak, who expertly prepared me for the job, established a number of successful initiatives during her two years in office, is currently coordinating the Common Core State Standards workshops throughout the state, and is a valued source of advice. Special recognition goes to Ruth Hubbard whose tenure as Treasurer has been highly successful and who took on the additional responsibility of serving as liaison with the company that has been rebuilding our website.

[continued on [page 4](#)]

Emerging Leaders Conference

- Mark Jaffee, OCTM President

The 3rd Annual Emerging Leaders Conference sponsored by the Ohio Council of Teachers of Mathematics was held on April 2, 2011 at Ohio Dominican University and it was a tremendous success. Forty-seven pre-service and beginning teachers along with nine speakers and several other Board members attended. The pre-service teachers came from the University of Dayton, Ohio Dominican University, Miami University, Ohio University, Bluffton College, Ohio State University, and Kent State University and the beginning teachers were employed in the Upper Arlington High School, Strongsville High School, St. Joseph Academy, Springfield City Schools, Stow-Munroe school district, Bradford Exempted Village Schools, Laurel School, National College, and others.

Registration Chair for the conference, Caroline Borrow collected the registration fees and forms from the participants and mailed the confirmations to all who came. Each participant received a portfolio with the OCTM logo, an official OCTM pen, and an OCTM lapel pin. After coffee and pastries, President Mark Jaffee welcomed all of the attendees and talked about what OCTM does and how all mathematics teachers can benefit by being members. Bonnie Beach represented The Ohio Resource Center and demonstrated on-line navigation of the ORC website, including the new Stella's Stunners section which drew a huge number of positive comments from the participants. Todd Edwards discussed technology in the classroom and showed how GeoGebra software could determine the location of the best meeting place for lunch for three people who lived in different parts of the state where the criterion was to find a spot which required all three to travel the same distance. Then, the criterion was changed to finding the location at which the sum of the distances was minimized. Todd showed how GeoGebra could find that point (the Fermat Point) and how the students could locate the point using equilateral triangles. Janet Herrelko spoke about gender equality and what we must do differently to promote math

skills in girls. A number of the participants expressed interest in obtaining GeoGebra for their classrooms as a result of Todd's presentation and many suggested that a full day workshop on gender equality would be very welcome due to the popularity of Janet Herrelko's talk.

After discussing the morning's activities, we had lunch (arranged by Bonnie Beach), then listened to Krista Vonenberger and Spencer Pate, co-Presidents of the Ohio University Council of Teachers of Mathematics. They described what college students could do to become more involved with the teaching profession. They provided examples of what the two of them have done to enhance their professional standing such as participation and leadership in the OUCTM, tutoring in the schools and attending professional conferences. Vicky Kirschner, our Ohio Department of Education Mathematics consultant liaison demonstrated on-line navigation of the ODE website. Many of the participants expressed that this presentation benefited them enormously by making them more aware of what was on the website and how to navigate through it. Kim Yoak updated the participants on the progress of instituting the Common Core State Standards into the curriculum and OCTM's role in helping to prepare the teachers in the state for that happening. Bonnie Beach and Rebecca Maggard reprised the Len Pikaart talk they had given at the Annual Conference in Akron. They simultaneously amused and inspired everyone in attendance. In conclusion, Executive Director Dave Kullman awarded a wide range of door prizes to those participants whose names were drawn out of a box. The enthusiasm of the participants and the hard work and planning of the ELC planning committee, President Mark Jaffee, Executive Director Dave Kullman, site chairperson, Bonnie Beach, and registration chair Caroline Borrow all contributed to an excellent day.



OCTM NEWSLETTER

Published by the Ohio Council of Teachers of Mathematics
Four (4) times each year:
January/March/June/September

Editor: Chris Bolognese
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[President's Message continued]

She has expended a huge number of hours on this project, working with the web design company and coordinating the committee that has been testing the site.

Sister Mary Theresa Sharp has been Membership Secretary for many years. She has performed her job in exemplary fashion and soon she will register \$1,000,000 in dues collected since she was appointed to that position. Rebecca Maggard is the Secretary of the association and maintains minutes of all of the meetings. Patti Brosnan is Vice-President (College), but she is also the Chair for the 2012 Annual Conference in Columbus and coordinates the Special Interest Groups. Caroline Borrow is Vice-President (High School) and also served as Registration Chair for the last two Emerging Leaders Conferences and was Program Chair for the 2010 Akron Annual Conference.

Judy Gerwe is Vice-President (Elementary) and has been an overall Chair for previous annual conferences and continues to serve on numerous committees. Ann Farrell and Anne Hambrick were asked to step in and take over important duties after their terms on the Board were over. Neither hesitated to accept my request for help. Chris Bolognese (Newsletter Editor), Ed Laughbaum and Todd Edwards (Ohio Journal of School Mathematics), and Steve Phelps (Webmaster) all put in long hours to create top quality publications. These are the types of committed, dedicated, and talented people we have on the OCTM Board. It is up to all of us to continue to find and cultivate new leaders as we look forward to the future.

OCTM membership opportunities

***OCTM membership makes a great gift – especially for new graduates!** Visit http://www.ohioctm.org/join_octm.htm to learn how to join or to obtain a membership form to give someone the gift of the OCTM community. Regular memberships are still only \$25, and first-year teachers can join for \$10! Full-time college students pay only \$5!

Reminder: **all K-6 teachers can join OCTM and SECO** (the Science Education Council of Ohio) together for a **25% discount** off the membership rate of each organization. Visit http://www.ohioctm.org/join_octm.htm to download this application.

Puzzle Corner

by Duane Bollenbacher

RIDDLE:
WHO INVENTED FRACTIONS?

LEVEL ONE
USING NO DIGIT MORE THAN ONCE, FIND THE SMALLEST POSSIBLE 5-DIGIT NATURAL NUMBER THAT HAS A 7 IN THE HUNDRED'S PLACE (A NATURAL NUMBER CANNOT BEGIN WITH 0).

LEVEL TWO
IN BASKETBALL, YOU CAN SCORE A 3-POINT SHOT, A 2-POINT SHOT, OR A 1-POINT SHOT. IF ORDER DOES NOT MATTER, HOW MANY DIFFERENT WAYS CAN YOU SCORE 1 POINT? 2 POINTS? 3 POINTS? 4 POINTS? 5 POINTS? 6 POINTS? (ARE YOU SURE?), 7 POINTS?

LEVEL THREE
THERE ARE TWO POSITIVE NUMBERS THAT MAY BE INSERTED BETWEEN 3 AND 9 SUCH THAT THE FIRST THREE NUMBERS ARE IN GEOMETRIC PROGRESSION, AND THE LAST THREE NUMBERS ARE IN ARITHMETIC PROGRESSION. FIND THOSE TWO NUMBERS.

Click [here](#) for answers

If you are a Twitter user, please follow the Ohio Council of Teachers of Mathematics on Twitter
<http://twitter.com/ohioctm>

Miami University to Host First Annual GeoGebra Midwest Conference, June 9-10

- Todd Edwards, Ohio Journal of School Mathematics Editor

Interested in incorporating more inquiry-oriented investigations your mathematics instruction? Interested in learning more about FREE, open-source dynamic mathematics software? Looking for professional development opportunities for you and your colleagues that don't cost an arm and a leg? Well look no further! The GeoGebra Institute of Ohio wants you to join us at the First Annual GeoGebra Midwest Conference to be held at Miami University in Oxford, Ohio, on June 9-10, 2011.

There are no registration fees to attend the conference. The conference is free (just like GeoGebra). A wide variety of speakers and participants will be sharing insights, teaching ideas, lessons, and more. Interactive sessions are organized in three levels that run concurrently throughout each day of the conference. Novice sessions are designed especially for those new to GeoGebra and dynamic geometry software. Basics of the software will be explored in hands-on, collaborative sessions. Intermediate sessions are designed for those who have worked with dynamic geometry software in the past (perhaps Geometer's Sketchpad or Cabri) but who have little formal GeoGebra experience. Expert sessions are designed for power users, those with significant previous experience with GeoGebra.

Conference co-chairs, Steve Phelps and Todd Edwards, invite you to visit the GeoGebra Midwest Conference home page at <https://sites.google.com/site/ggbmidwest2011/> to learn more about conference speakers, registration and housing options, and site accommodations. Feel free to contact Steve (sphelps@madeiracityschools.org) or Todd (m.todd.edwards@muohio.edu) with questions regarding the conference.

OCTM State Tournament of Mathematics

- Cathy Stoufer, OCTM Contest Director

The 2011 OCTM Contest was held on February 26, 2011 at twenty-three sites around Ohio with 98 schools and 1442 students participating. The contest is a mathematics competition for Ohio high school students in grades nine through twelve. Students compete individually and as members of a high school team. Contestants have 60 minutes to answer 40 questions.

The top individual score on the 2011 Contest was 35, earned by Michael Garn of St Ignatius High School, Corinne Peters of Sycamore High School, Keval Yerigeri of Copley High School, and Cindy Zhao of Brecksville-Broadview Heights High School. The top team score was 133 earned by Dublin Jerome High School.

Contestants earning the top 96 scores were invited to attend the OH-MIO (Ohio High School Mathematics Invitational Olympiad) Competition on March 24, 2011. Cindy Zhao of Brecksville-Broadview Heights High School was the top scorer.

The 2012 OCTM Contest will be held on February 24, 2012. For information and to register for the contest go to the contest webpage at www.octmtournament.org.



GiOhio
GeoGebra Institute of Ohio



Emalou Brumfield Grant Recipients Attend NCTM Conference

- Peggy Kelly, West District Director

Four Wright State University graduate students who are each earning an AYA integrated mathematics license and master's degree this year were able to attend the NCTM national conference in Indianapolis thanks, in part, to a grant from the Emalou Brumfield Affiliate fund. Those attending the conference were Samantha Ehrman, currently student teaching at Fairborn High School, Jillian Huddleston, currently student teaching at Fairborn Baker Middle School, Christopher Stader and Christina Witt, both currently student teaching at Bellbrook High School. In addition to the OCTM grant, the local affiliate – Wright State University Area Council of Teachers of Mathematics (WSUACTM), and Wright State University's departments of Math & Statistics and Teacher Education all contributed money to assist these students to attend the conference for very little personal cost.

The students arrived in Indianapolis on Wednesday evening and were able to stay for sessions through Saturday morning. All students were impressed with the quality of the workshops. They especially focused on looking for ways to reach all learners and felt that they not only got great ideas on how to tier instruction, but were able find resources that both they and their students could use. They were exposed to a vast number of real-world applied problems and noted that some schools made good use of professionals who would volunteer to go into the school and give students a better picture of how math is used. Sessions forced them to think about how to appropriately challenge all students and ways to engage learners in all lessons. Students also attended several sessions that were focused on new teachers and how they can be effective and successful in the classroom in the early years. These were very informative and answered a lot of questions. They also helped students to feel a little less stressed about starting a new career. The students each won a book in one of the new teacher sessions.

“The conference was a great experience... I am grateful for this opportunity, and for the support your grant has given me.”

The exhibit hall was both impressive and overwhelming. The students saw that many of the (non-textbook) companies were started by teachers. These teachers created something from a need noticed in their own classrooms. Students were able to purchase a few books and supplies for their own classrooms as well as gather a number of freebies to get them started. Jillian Huddleston said, “I got a ton of great resources to help me as I get ready for my first year of teaching. I think that is a big stress reliever there. I have already read half of the new teacher book I won at a session and have learned a lot! Great conference and experience! Definitely will go again!”

All four students echoed the comments of Christopher Stader, “The conference was a great experience. Attending workshops on topics including effectively beginning each class, implementing additional technologies, and differentiating for the whole classroom, has given me a multitude of great ideas and energy to implement now in my student teaching, as well as in my career. I am very grateful for this opportunity, and for the support your grant has given me.”

Click [here](#) to become an OCTM member.

Click [here](#) for a complete directory of OCTM Officers

NCTM Report

- Mark Jaffee, OCTM President

The 2011 National Council of Teachers of Mathematics Annual Conference and Exposition was a huge success in spite of the smaller number of participants than usual (approximately 8,600). The presentations were varied, interesting, and enhanced our knowledge of mathematics and teaching. The exhibition hall had a wide range of vendors and was well-attended by the conference registrants. A large part of the success of the conference can be attributed to the participants from Ohio. Topping the list is Linda Gojak from John Carroll University, the newly installed President-elect of NCTM. Fred Dillon from Strongsville High School was recognized for completing his three year term on the Board of Directors. Also, Cheryl Adeyemi who attended John Marshall HS and earned her BA and MA at Ohio State University is the incoming President of The Benjamin Banneker Association. Mark Jaffee, President of OCTM and Annemarie Mockler, President of the Greater Cleveland Council of Mathematics represented OCTM at the Central Region Delegate Caucus and Annemarie represented us at the Delegate Assembly. Bennie Roper-Williams retired teacher from the Cleveland City Schools served as a volunteer for NCTM at the conference.

A total of seven present or former presidents of OCTM were present at the conference. They are Mark Jaffee, Kim Yoak, Linda Hallenbeck, Duane Boltenbacher, William Speer, Linda Gojak, and Dan Brahier.

Furthermore, a number of Ohio educators made presentations during the conference. Their names, school, and topics are in the table below.

Presenter(s)	School(s)	Topic
Sarah Koebley Sharon Nivert Wendy Dennis	Kent State University Hudson schools Hudson schools	Teachers as Generators of Knowledge in Transformational Learning Communities
Charles B. Sonenshein	Wright State University	You Don't Have to be a Magician, But it Helps!
Greg Foley	Ohio University	Geometric Modeling and Spatial Reasoning for Capstone Mathematics
Brad Hunt Sarah Garrison	Norwood City Schools	Go with the Flow: Describing Storm Water Runoff Using Derivatives

Fred Dillon (with Christine Thomas, Jennifer J. Salls)	Strongsville High School	Teaching for Reasoning and Sense Making: How Does it Work?
Mark Jaffee	Lorain City Schools	Teaching Mathematics Through Music
Jeff Wanko Gregory S. Hawk	Miami University Miami University	It Figures: Logic Puzzles Powered by Geometry
Bob Drake	University of Cincinnati	Spatial Reasoning through Problem Solving: Connections across Mathematics
Natalia P. Darling	University of Cincinnati	Equalizing the Learning Game Using Graphic Organizers for Math
Linda Gojak	John Carroll University	Geometry: It's More than Vocabulary
Beatriz D'Ambrosia Rochelle Gutierrez	Miami University U of Illinois(Urbana-Champaign)	Identity and Power: Moving Beyond the Achievement Gap
Fred Dillon Alyssa Holsar	Strongsville HS Strongsville HS	Geometry: Making the Connections
Steve Phelps Troy Jones	Madeira High School Utah	It's Not So Complex! Transforming Your Perspective of Complex Numbers Also, Does a Tetrahedron have an Euler Line?
Suzanne Harper Nick Shay Shannon Driskell	Miami University Miami University University of Dayton	Interactive Geometry in More Dimensions Using Google SketchUp
Jeff Wanko Todd Edwards	Miami University Miami University	How to Train Your Draggin': Functional Thinking with Dynamic Sketches
Anne Reynolds Sandra Davis Trowell Eileen Lillard	Kent State University Valdosta State (Georgia) U of Oklahoma	Connecting Algebraic Thinking with Number and Geometry
Brad Findell	Ohio Department of Education	Learning Progressions for the Common Core State Standards
Todd Edwards	Miami University	Broaden Your Perspective: Geometry-What's in Your Area
Rachel D. Landreman Dana C. Cox	Hamilton City Schools Miami University	When Math Becomes a Balancing Act

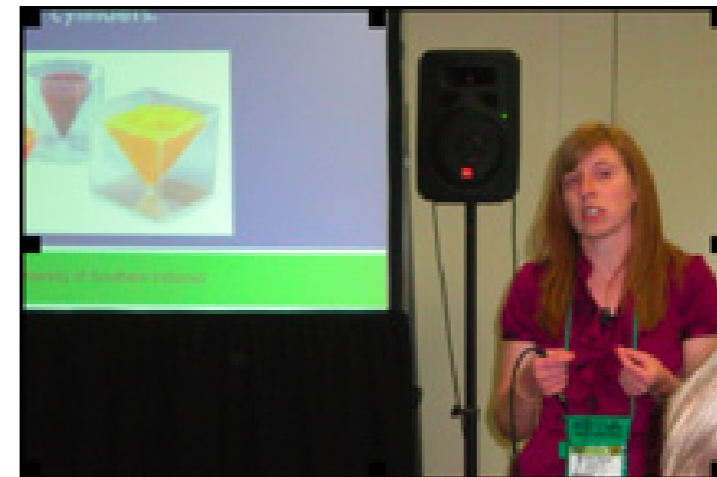
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Sally Kleiner Virginia L. Keen Kimberly S. Smethurst	Dayton Public Schools University of Dayton University of Dayton	Student-Created Geometry Books for Kids: A Transforming Partnership
Tod Shockey Sandra Baldwin	University of Toledo Sandra Baldwin	Bringing Mathematics to Life through Dance
Virginia Keen Jennifer L. Bucher Katie Ertle	University of Dayton University of Dayton University of Dayton	Strengthening Mathematical Knowledge through Video Creation
Kelli Shrewsberry Phyllis Bates Jessica Cahill	Teaching & Learning Collaborative South Western Schools South Western Schools	Camping In: Math Style
Jennifer V. Nickell Kevin E. Carlin	Lakota Local Schools Lakota Local Schools	Promoting Higher-Level Geometric Thinking through Constructions and Writing Assignments
Rachel Chaplin Marcia Myers Helen Rowland	Akron Public Schools Akron Public Schools Akron Public Schools	I Hate Math, Ma'am! Yes I Do, Sam I Am!
Jonily Zupancic Nicole Kelley	Gahanna-Jefferson Schools	Teaching 45 Concepts in the First Fifteen Days of School
Dan Brahier	Bowling Green State University	Picture This! Visualization in Algebra
Dana C. Cox	Miami University	Measuring the Value of Listening to Students
Wayne Nirode	Miami University	Thinking Deeply About Two Math Concepts: Area and Perimeter
Jane Keiser Karen Fitch Don Gloeckner	Miami University Talawanda Schools Talawanda Schools	Can't Do Long Division? Adjusting to Student's Transitioning Computational Strategies

The 2012 NCTM Conference will be in Philadelphia next April. It is not too early to make a proposal to speak at this conference or attend as a participant. Check the [OCTM website](#) and the [NCTM website](#) for more details.



Ohio Participants (Regional Caucus Meeting)



Alyssa Hoslar (NCTM Presenter and Two-Time Emerging Leaders Conference Attendee)

Duane Bollenbacher's 23rd Annual Summer Workshops

2011 SUMMER MATHEMATICS WORKSHOPS for TEACHERS
AT BLUFFTON UNIVERSITY, BLUFFTON OHIO

22.5 Contact Hours for LPDC Credit—Cost \$125 OR
1 Semester Hour Graduate Workshop Credit (Pass/Fail)—Cost \$275

Wed-Fri, June 8-10:

“HQT Certification for Intervention Specialist in Mathematics Content”
INSTRUCTOR: Duane Bollenbacher, Bluffton University
(This class, plus one other, will certify you to become HQT as an Intervention Specialist in Mathematics Content)

Tues-Thurs, June 14-16:

“Mathematics for the FAMILY AND CONSUMER SCIENCE Teacher”
INSTRUCTOR: Duane Bollenbacher, Bluffton University

Tues-Thurs, June 21-23:

“~~200~~ 202 205 Things That EVERY High School Mathematics Teacher Should Know”
INSTRUCTOR: Duane Bollenbacher, Bluffton University

Tues-Thurs, Aug 9-11:

“Become a MASTER TEACHER in Middle School PROBABILITY AND STATISTICS Topics”
INSTRUCTOR: Marilyn Link, Coldwater, Ohio

Tues-Thurs, Aug 9-11:

“Using RICH Problems to Learn and to TEACH Good High School MATHEMATICS, COURSE 2”
INSTRUCTOR: Duane Bollenbacher, Bluffton University

NOTES: 8:30 AM – 4:30 PM Daily
Lunches are included; housing and other meals are available.

For further information, brochures/registration forms, or questions, contact:
[Duane Bollenbacher](#); Bluffton University Box 54, Bluffton, OH 45817
(W) 419-358-3296; (H) 419-358-7365

Puzzle Corner Answers

RIDDLE:

Henry the Eighth

LEVEL ONE:

12,734

LEVEL TWO:

1 point—one way (1)

2 points—two ways (2; 1,1)

3 points—three ways (3; 2,1; 1,1,1)

4 points—four ways (3,1; 2,2; 2,1,1; 1,1,1,1)

5 points—five ways (3,2; 3,1,1; 2,2,1; 2,1,1,1; 1,1,1,1,1)

6 points—SEVEN ways (3,3; 3,2,1; 3,1,1,1; 2,2,2; 2,2,1,1; 2,1,1,1,1; 1,1,1,1,1,1)

7 points—EIGHT ways (3,3,1; 3,2,2; 3,2,1,1; 3,1,1,1,1; 2,2,2,1; 2,2,1,1,1; 2,1,1,1,1,1; 1,1,1,1,1,1,1)

LEVEL THREE:

$9/2$, $27/4$

Let $a < b$ be the two numbers. Then since $3, a, b$ are in geometric progression, $a/3 = b/a$ implies that $a^2/3 = b$. Since $a, b, 9$ are in arithmetic progression, then $b - a = 9 - b$, which implies that $2b = 9 + a$. Solving this system of equations shows that $a = 9/2$ and $b = 27/4$.

Ohio Pioneers in Mathematics Education

Part 3: 1880-1910

- David Kullman, OCTM Executive Director

This series continues with biographical sketches of some mathematicians who helped to shape mathematics education in Ohio and beyond around the turn of the 20th century. More information can be found at Ohio Masters of Mathematics, http://sections.maa.org/ohio/ohio_masters/.

ELISHA SCOTT LOOMIS

was born in a log cabin in Medina County in 1852. He was a cousin of the mathematician, Elias Loomis, who taught at Western Reserve College. As a young man, Elisha worked on nearby farms during the summers and attended country schools in the winters. Once he walked seven miles to a nearby town to purchase a copy of Ray's Elementary Algebra, which he proceeded to on his own since the district school teacher knew nothing about algebra. By age 21 he had accumulated enough savings to enter Baldwin University (now Baldwin-Wallace College). There he came under the influence of Aaron Schuyler [see Ohio Pioneers, Part 2] whom he would later succeed as professor of mathematics.



Loomis graduated from Baldwin in 1880, and served as the principal of Richfield Central High School in Summit County before being elected to the chair of mathematics at his alma mater in 1885. He continued to study while he taught, earning A. M. and Ph.D. degrees from Wooster University (now the College of Wooster). In 1895 Professor Loomis left Baldwin University to become head of the mathematics department at Cleveland West High School, where he remained until his retirement in 1923. In 1900 he earned the LL.B. degree from the Cleveland Law School and was admitted to the Ohio bar. He also served a three-year term as president of the High School Teachers Mathematics Club of Cleveland.

Loomis wrote several books on geometry and the teaching of mathematics. He is probably best known for his work, *The Pythagorean Proposition*, a compendium of more than 250 proofs of that famous theorem. The manuscript was prepared in 1907 and published in 1927. A second edition appeared in 1940

The series continues with biographical sketches of some mathematicians who helped to shape mathematics education in Ohio.

and was reprinted in 1968 as part of the NCTM "Classics in Mathematics Education" series. By his own count, Loomis published "a hundred or more articles on educational, pedagogical, mathematical, and genealogical subjects."

Loomis was known for living an orderly life, and he wrote his own obituary six years before he died. In it, he claimed to have "plowed habit-formation grooves in the plastic brains of over 4000 boys and girls and young men and women." Concerning his own success in life he wrote, "Of all honors conferred upon him, he prized the title of 'Teacher' more than any other."

ELIAKIM HASTINGS MOORE

was born in Marietta, Ohio, in 1862. He attended Woodward High School in Cincinnati from 1876 to 1879. One summer he worked as an assistant to the director of the Cincinnati Observatory, Ormond Stone, and this experience convinced him to pursue the study of mathematics and astronomy.

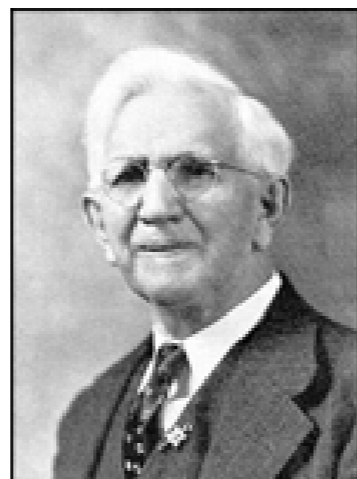


Moore earned his B.A. degree at Yale University in 1883, and two years later he received a Ph.D. in mathematics from that same institution. His doctoral dissertation dealt with the geometry of n dimensions. After a year of study in Germany, he began teaching mathematics at Northwestern University. When the University of Chicago opened in 1892, Moore was appointed professor and acting head of the mathematics department. There he built an outstanding faculty that produced many of America's most prominent 20th-century mathematicians.

Moore published mathematical research in group theory, foundations of geometry, and foundations of analysis. He helped to organize the International Mathematical Congress that brought Felix Klein to the United States in 1893. He is best known to mathematics educators for his 1902 presidential address to the American Mathematical Society. With a vision that was far ahead of his time, Moore advocated discovery and laboratory approaches to teaching mathematics and asked if it would be "possible to organize the algebra, geometry, and physics of the secondary school into a thoroughly coherent four years' course?"

[continued on next page]

BENJAMIN FRANKLIN FINKEL was born in Fairfield County near Lancaster, Ohio, in 1865. As a student attending rural schools, he discovered his natural talent for solving mathematics problems. He earned a B.S. at the Northwestern Ohio Normal School in Ada (now Ohio Northern University) in 1888 and a M.S. in 1891. After serving as a teacher, principal, and superintendent at various schools in Ohio and Tennessee, Finkel moved to Kidder, Missouri, in 1892 to become an instructor in mathematics and astronomy at the Kidder Institute.



The following year he founded The American Mathematical Monthly, and the first issue appeared in January 1894. From the beginning, a problem section was a prominent feature of the journal, and it has been a mainstay of the Monthly for more than a century. In order to save money, Finkel carved most of the woodcuts himself while his wife proofed the work and addressed the mailing wrappers. He hoped that the new journal would be widely read by high school teachers, but it soon attracted a largely collegiate audience.

Finkel left Kidder in 1895 to become professor of mathematics and physics at Drury College in Springfield, Missouri. Eventually a consortium of colleges and universities (including Oberlin) assumed responsibility for publishing the Monthly, and when the Mathematical Association of America was founded in Columbus, Ohio, in 1915, the Monthly became its official journal. Finkel retired in 1937 but remained on the editorial board of the Monthly until his death in 1947.

ODE Update

- Vicky Kirschner, ODE Mathematics Consultant

The mathematics team at the Ohio Department of Education is continuing to work with educators from across Ohio and the Nation to provide Ohio mathematics teachers with current information and tools for the teaching of mathematics. For updated information please bookmark and visit regularly the [mathematics page](#) on the ODE website. To find this page, go to our Website at www.education.ohio.gov, view the menu under Teaching, click on Instruction then click on Mathematics in the sidebar menu.

Over the last year the mathematics team has been working on the Model Curriculum and support documents for the implementation of the Common Core State Standards for Mathematics. These documents are posted on the [Mathematics Common Core State Standards and Model Curriculum page](#) located on the Mathematics page. There you will find the link to the Common Core State Standards for Mathematics (CCSS) and our model curriculum for mathematics that was adopted by the Ohio State Board of Education last month. Draft copies of the model curriculum are currently posted and the newly adopted versions will be posted soon. Additionally, you will find other materials and resources developed for the CCSS for Mathematics, including:

- Crosswalks: Cluster to Benchmark comparison
- Learning Progression Views
- K-8 Critical Areas of Focus
- What should districts be doing?
- FAQ
- Model Curriculum

When additional materials are developed by ODE and national groups, they will be placed or linked on the Mathematics page.

Additionally, we would encourage you to keep current on what is happening with the [Race to the Top](#) (RttP) programs. The mathematics team will be working to ensure quality professional development and resources around topics such as Formative Assessment, Performance-Based Assessment and College and Career Readiness Expectations. Opportunities for districts and individuals to participate in these and other projects will be posted on our Website soon.

Finally, keep informed on what is taking place related to state and national assessments by visiting the [ODE Testing page](#).

If you are a Facebook user, please follow the [Ohio Council of Teachers of Mathematics Facebook Page!](#)

