

The Greater Cleveland Council of Teachers of Mathematics

NUMBER NOTES

www.mycctm.org

Mailed on or before August 30, 2007

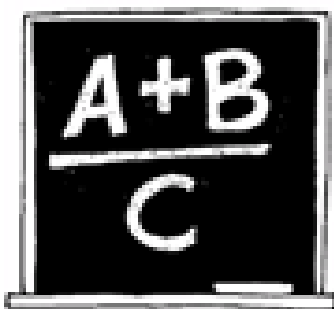
*Focus of the 2007-2008 School Year:
Problem Solving*

Focus on Problem Solving

*Presented by Linda Gojak (K-5)
& Jeff VanArnem (6-12)*

Breakout sessions:

Linda Gojak-Problem solving in the Elementary Grades
Jeff VanArnem-Using TI-NSpire graphing calculator as a problem solving tool



Wednesday, September 19, 2006

5:00 - 5:30 Refreshments, Dolan Center, Room E 241

5:30 - 5:45 Business Meeting

5:45 - 7:00 Breakout Sessions

Contact Carla Kehres, kehres@mentorschools.org for more information.

www.mycctm.org

President's Message

Greetings! I hope you had a pleasant and productive summer full of rest, relaxation, recreation and reflection.

The theme for GCCTM this year centers on “problem-solving”. I hope that you will join us for some (if not all) of our meetings this year. Please bring your favorite problems to share with your fellow math teachers.

The important work of educating the young people of Greater Cleveland will have already begun in earnest by the time you read this newsletter.

Our region's economic challenges demand that we engage our students in the important work of meaningful problem-solving activities. It is essential that we help our students develop those critical thinking skills that will enable them to grow into adults who might successfully deal with our many challenging problems: affordable healthcare, successful crime-fighting programs, job development, rebuilding the central city, funding public education, etc.

Each time you work with students, there exists that chance that a random remark, a single problem, an engaging activity, a well-deserved compliment, or a shared story may trigger a lifetime enthusiasm. This possibility, waiting in the hall outside every classroom in every school, represents our most significant responsibility as educators and the greatest source of hope for our world. You may be the catalyst that sparks one of your students to find a cure for cancer or become an enlightened political leader or an inventor of some important new technology that revitalizes our region.

It is a vital role that you play each day in your classroom. I remain as proud today as I was thirty-six years ago to say “I am a math teacher”. I hope you share that pride and enthusiasm for the important work of teaching math to your students. I am grateful to my own teachers and teaching colleagues for instilling that spark in me: Frank Bitzan, Jack Kleinhenz, Joe Shicker, Tom Pasko, Tom Flandera, Vince Benander, Russ Molnar, just to name a few.

Best wishes for a successful school year. Your job is a vital one. Challenge your students! You will be doing a great service for Greater Cleveland and Northeast Ohio!

Don't forget to check our website often at www.mygcctm.org. It is your best source of information regarding GCCTM and it has links to other math sites of interest to you and your job. I hope to see you at our next meeting.

Tom Lanning



CONTEST

We have used the same format for the 7-8 grade contest for many years. We need new ideas and new individuals to help with the contest. Can you attend a meeting at John Carroll University on Tuesday, September 25, from 5 to 7 to help with this? Room JCU E241. RSVP to Adele Cohn acohn@en.com or 216-382-3549.

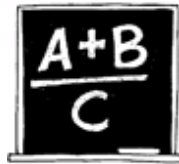
Greater Cleveland Council of Teachers of Mathematics
Central District Regional Meeting
September 19, 2007
Dolan Center - John Carroll University

Focus on Problem Solving

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5:00 - 5:30 Refreshments, Dolan Center, Room E 241
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Cost: \$8 for GCCTM members and \$18 for non-members (includes a one-year membership and light dinner). Non-members must **fill out and return membership** form (available in this newsletter or on the web, www.mygcctm.org.) to ensure accurate registration.

**Location: Dolan Center, John Carroll University, 20700 North Park Boulevard,
University Heights, OH 44118**

On-line maps available at: <http://www.jcu.edu/pubaff/AboutJCU/directions.asp>

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Name: _____

Day Phone _____

Mailing Address: _____

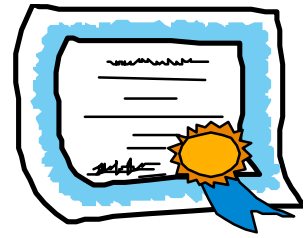
School / School District _____

School Phone _____ Grades Taught _____

Email: _____

Make **checks** payable to GCCTM. **Mail registration form and fee** to:
GCCTM c/o Carla Kehres, 10113 Wisner Road, Kirtland OH 44094
440-256-2086, kehres@mentorschools.org

GCCTM East District Award Winner for 2007



Carole Katz – High School Outstanding Teacher 2007

Carole Katz teaches AP Calculus and Honors Pre-Calculus at Beachwood high school. She also serves as the Math Department Subject Coordinator for grades 7-12. She is very active in the field of mathematics education, serving as a PROM/SE associate for her district. She has been named a Martha Holden Jennings Scholar and was nominated for the Martha Holden Jennings Master teacher award. She was invited several years ago to serve on a Content Advisory Committee for the Ohio Graduation Test, which in her words, proved to be “an interesting and sometimes frustrating experience”. She also serves on the Ohio Mathematics Education Leadership Council, which meets twice yearly to guide policies in mathematics education. The Director of Curriculum and Instruction at Beachwood has admired Carole for her “intelligence, professionalism, and love of learning.” She commends her for her “dedication to the educational profession.” Carole utilizes a variety of instructional methods with her students, ranging from a discovery approach to group work to utilizing technology to visualize obscure calculus theorems. She also strongly stresses the importance of verbal and written communication in mathematics. Carole not only has shown her dedication to the profession of teaching, but has also been a great role model for her students on the importance of life long learning. While teaching full time, Carole completed coursework to become a registered nurse and is now practicing part time at a local hospital in addition to teaching a full schedule of advanced classes at Beachwood High School. Congratulations!



GCCTM Officer Information

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www.mygctm.org

TI –Nspire Workshop

Get a hands-on introduction to the newest Texas Instruments calculator – the TI –Nspire. With its capacity for multiple representations, low price, compatibility with the TI-84 and more, this calculator is poised to make huge changes in the mathematics classroom.

For more info on the Nspire, go to <http://www.ti-nspire.com/tools/nspire/index.html> or at the GCCTM webpage

TI-nspire CAS



October 12, 2007 at Orange High School

or

October 13, 2007 at a West Side site to be determined

Starts at 8:30 for registration and light breakfast
9-10:30 first session

10:45-12:15 second session

12:15 Closing and raffle for math prizes

What you will get – a hands-on session

learning to use the Nspire with handouts and applications you may keep.

Presenters are Phyllis Peterson, Heidi Rudolph and Jeff van Arnhem, T³ presenters who have been using the Nspire in their classrooms since its prototype was introduced.

Due to high demand, you must pre-register for this workshop. The registration is available at www.mygcctm or through Wade Zwinger at 7357 Glenside Lane, Olmsted Township, OH 44138 Registration is limited and on a first-come basis. Deadline for registration is October 1, 2007.

Pre-service student GCCTM member	\$2
Pre-service student non-member (includes membership)	\$7
Member GCCTM	\$5
Non-member GCCTM (includes membership)	\$15

If there are any questions, check the GCCTM website
or contact Wade Zwinger at the above address or at zwinger@cox.net

The Greater Cleveland Council of Teachers of Mathematics

Membership dues are \$10.00 for one year, \$45.00 for five years, and \$85.00 for ten years. Please continue or start your membership by filling out this form and by writing a check, payable to GCCTM, for the appropriate amount. Mail both to:
GCCTM Membership, 15690 Balmoral Ct., Strongsville, Ohio 44136-2594
If you don't need this form, please share it with a nonmember.
Please print or type.

Name _____
Address _____
City _____ State _____ Zip _____

Assignment level (circle as appropriate)
Pre-service teacher K 1 2 3 4 5 6 7 8 9 10 11 12 College
District (circle): Central East Northeast South West

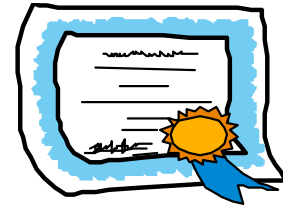
School: _____
System: _____
Phone (work) _____ e-mail address _____

Enclosed is \$ _____ for _____ year(s) membership in GCCTM
Renewal _____ New _____

Central: Cleveland City Region
East: Beachwood, Bedford, Chagrin Falls, Maple Hts., Orange, Shaker Hts., Solon, Warrensville Hts., Summit County schools
Northeast: Cleveland Hts./University Hts., East Cleveland, Eastlake, Euclid, Mayfield, Richmond Hts., South Euclid/Lyndhurst, West Geauga, Wickliffe, Willoughby Hills
South: Brecksville, Brooklyn, Brunswick, Buckeye, Cuyahoga Hts., Garfield Hts., Highland, Independence, Medina, North Royalton, Parma, Strongsville
West: Avon, Avon Lake, Bay Village, Berea, Columbia Station, Fairview Park, Lakewood, North Olmsted, North Ridgeville, Olmsted Falls, Rocky River, Westlake
If your school district is not listed, you are in the region of the school district closest to your own.

CONTACT: Tom Lanning at (440)427-6056 or tlanning@lecca.org for student membership forms

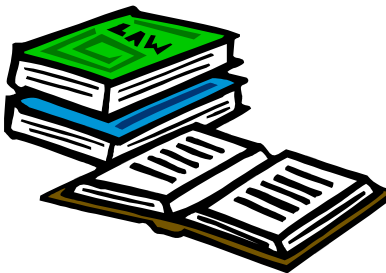
GCCTM East District Award Winner for 2007



Ian Thome – Elementary Outstanding Mathematics Teacher 2007

Ian Thome teaches 6th grade at Aurora Upper Intermediate School in the Bedford City Schools. He serves as the building math content advocate where his duties include adopting textbooks, creating courses of study, leading his fellow math teachers to create common assessments and attending professional development activities. His principal, Paul Ward, has described Ian as a “natural leader in the building, bringing many quality character traits such as professionalism, creativity, and hard work.” He frequently incorporates technology and the use of manipulatives into his lessons, whether he is working with his gifted Pre-algebra students or inclusion students. Ian has shown his willingness to grow professionally by trying new things and working at differentiating instruction. He explained in his application how he used to be a “strictly textbook and notes teacher”, and has now discovered that integrating technology and a constructivist approach has had a huge impact on his students. He also has discovered that “one size fits all does not fit all”. In addition to serving as the Math Advocate for the building, Ian is a member of PROM/SE and has participated in the Jason project in the integration of mathematics and science. Congratulations Ian Thome!

West Side Book Discussion Kick-off with Peg Smith: October 2nd



The West Side Book Discussion is moving to the fall this year as we are lucky enough to have author Peg Smith kicking off the discussion of her book *Improving Instruction in Rational Numbers and Proportionality*. The opening meeting with Peg will be Tuesday, October 2nd from 5:00 – 6:00 at Baldwin-Wallace College in the Math and Computer Science Building on Jacobs Street just south of Bagley. Light refreshments will be served.

The second and third meetings will be Tuesdays October 23rd and November 13th. Peg Smith was a guest speaker about case studies several years ago for GCCTM’s opening meeting. Her presentation was very well attended. The book we are discussing came from the QUASAR project Peg worked on with Ed Silver and Mary Kay Stein. The project had as its goal an alternative to traditional mathematics instruction by offering instruction oriented toward helping students develop a meaningful understanding of mathematical ideas through engagement with challenging mathematical tasks. When the West Side Book Discussion group read the Geometry book from this same series two years ago, everyone agreed the cases in it and the discussion helped focus us all on improving instruction. Since rational numbers and proportionality are important topics that cut across content strands we felt this would be another great book for us to discuss.

Improving Instruction in Rational Numbers and Proportionality is published by Teachers College Press and is available from Amazon.com or half.com.

Please contact Fred Dillon or Teresa Graham at the addresses in the newsletter if you have questions about the book club.

Problem Solving by George Viebranz george.viebranz@ideastream.org

Lost in the Ohio Mathematics Academic Content Standards, buried away in benchmarks that many teachers never see or investigate, are the mathematical processes. With many school districts giving teachers checklists of indicators that students must master, we risk losing focus on perhaps the most important part of mathematics – applying reasoning and proof, connections, representations, and communication to solve challenging, applicable and relevant problems. Rich problems should be at the heart of mathematics teaching, learning, and assessment.

This is not to diminish the importance of the content standards, but a focus on content indicators alone denies students of opportunities to apply what they have learned to develop the full power of a mathematics education. Within the context of rich problems we are able to truly see and learn about the complete mathematical development of students, their misconceptions, and their mastery.

As teachers, we should always be looking for resources that strengthen our problem solving repertoire. You may want to consider adding these to your personal library or your school's professional library:

Children Are Mathematical Problem Solvers, by Lynn Sakshaug, Melfried Olson and Judith Olson, available from NCTM, has 29 rich problems for grades K-8. Each problem has samples of student solutions to show the different ways that students approach problems and develop their mathematical understanding.

Balanced Assessment for the Mathematics Curriculum, available from Dale Seymour Publications, is a series that includes several books with rich problems for grades 3-5, middle school and high school. Each book includes nearly 20 rich tasks (some short; some long) a standard assessment protocol and samples of student work that teachers can use to determine levels of student development within their own classroom. (One of my favorite problems is listed below).

Fostering Algebraic Thinking, by Mark Driscoll, a Heinemann Publication, is a book for middle school and high school teachers that contains some great problems for developing how students think about algebraic processes. This is an excellent choice for book or lesson study.

Show and Tell, by Linda Dacey and Rebeka Eston, a Math Solutions Publication, focuses on the K-2 classroom and the important ways that students develop their concept of number through problem environments. This also makes a wonderful book study title.

Good Questions for Math Teaching, by Peter Sullivan and Pat Lilburn, a Math Solutions Publication, focuses on how teachers at elementary and middle grades can use good questions to help students develop their own problem-solving disposition.

Here is a geometry and measurement problem from the Balanced Assessment Middle Grades Project. Sharpen your pencils and put your thinking caps on.

Grass for Goats

The Jacobsens have a very big yard, and they keep their goat on a chain that is 3 meters long.

1. If they chain their goat to a metal stake in the middle of their yard, what is the area of the grass that the goat can reach to eat? Sketch a picture and show your work.
2. Sometimes the Jacobsens chain their goat to the corner of a rectangular shed that is 5 meters long by 4 meters wide. The 3-meter chain is attached at ground level to the base of the shed. What is the area of grass that the goat can reach? Sketch a picture, show and explain your work.
3. Suppose the goat was chained to the shed at ground level at the center of the 4-meter wall. Would the amount of grass the goat can reach be greater or less than what he could reach when chained at the corner of the shed? Show a sketch and explain your answer.

An extension challenge: Consider how you might modify these problems to make them appropriate for a high school Algebra 2/Trigonometry course.

GCCTM Calendar 2007-2008

www.mygcctm.org

<i>Date:</i>	<i>Event:</i>	<i>Contact:</i>
September 19, 2007	East District	Carla Kehres
October 2, 2007	West Side Book Discussion	Fred Dillon or Teresa Graham
October 3, 2007	Newsletter Deadline	Cathy Staveteig
Week of Nov. 12, 2007	South District	George Viebranz
December 12, 2007	Newsletter Deadline	Cathy Staveteig
Week of Jan. 21, 2008	Northeast District	Jean Richardson
February 1, 2008	Newsletter Deadline	Cathy Staveteig
March 14, 2008	West District	Donna Langenderfer
April 4, 2008	Newsletter Deadline	Cathy Staveteig
April, 2008	7-8 Contest	Adele Cohn
May, 2008	5-6 Contest	Caroline Borrow
Week of May 12, 2008	Central District Awards Banquet	Lou Gliha

GCCTM
15690 Balmoral Court
Strongsville, OH 44136

*GCCTM: Renewal notices
are on your mailing label.
Please use the
membership form inside.*

