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Kansas City Area Teachers of Mathematics

The Summation

Volume 16, Issue 1

Winter 2016

Special points of interest:

- Contests
- News
- Resources
- Conference

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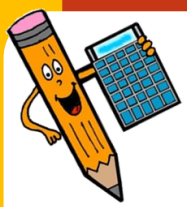

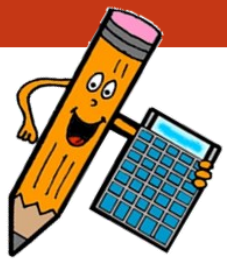

KCATM Math Contest

April 2, 2016

Grade 4
Grade 5

Grade 6
Grade 7
Grade 8

NEW HS ONLINE format

Use the above links for detailed information per grade level

Contest Coordinator-JoAnn Hiatt and Monica McWhorter

Elem & MS ONLINE Registration Now Open

Link to Online Only registration here!

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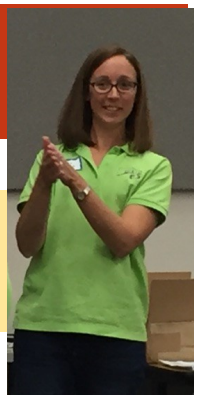
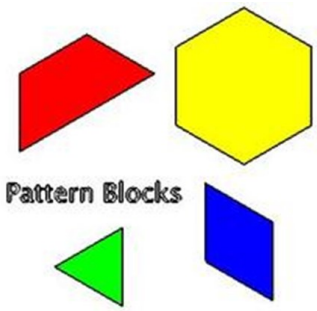


Hands-On Geometry Tasks

—Sarah Hicks

In my work as a mathematics teacher and teacher educator, I continue to reflect upon how I can provide hands-on learning experiences for my students. Yes, even high schoolers can benefit from learning opportunities with hands-on tasks. Most recently, I found a couple that are worth sharing. Implementation of these tasks, generated lots of good math talk and reasoning . I gave students exploration and work time in small groups with each task. Then, I asked them to share and explain their reasoning to the whole class with projection from a document camera.

I recommend setting up the task for students, generating some open-ended questions (see examples below) to ask as you walk around the room and monitor as well as support student progress, and then making time for students to share and explain in front of the whole class.



TASK 1

Objective:: Explore angle measures and use mathematical reasoning skills

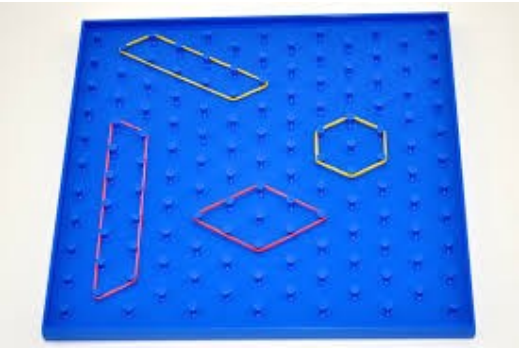
Task: Find the angle measures for every angle measure of every pattern block without using a measuring device such as a protractor.

Hint: Start with the green triangle.

You Can Ask: What type of triangle is the green triangle? What are the interior angle measures? How do you know? How might you use the green triangle to decide on interior angle measure of the yellow hexagon?

TASK 2

Objectives: To problem solve and visualize while identifying squares; to determine areas; use the Pythagorean Theorem



Task: Find all the possible squares that can e formed on the geoboard. Each square must be a different size (i.e., different area).

You Can Ask: How could you build a square with a diagonal as its side? What would its area be? Why?

Editor's Corner— Jan LaFevers

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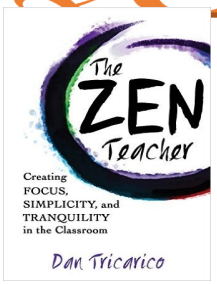
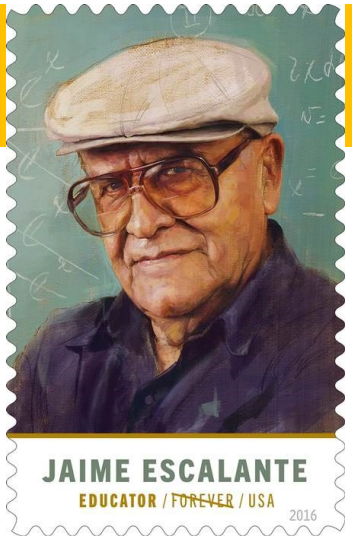


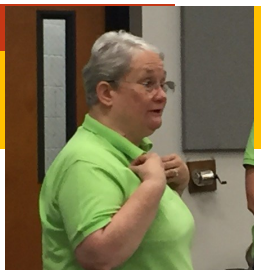
As with any book that I pick up to read, I want to know that I will learn something or find some useful tool for teaching. This book proved to be a good way to relax and reflect on how important it is to stay focused on our students and what they need from a teacher. Living in the moment is a life skill that is difficult to practice when you have lesson plans to write, committee meetings to attend and kids to pick up from a practice. Focusing on what you enjoy about teaching and life in general is good practice even for a seasoned educator. The way this book is set up really helps with taking those steps towards improving the quality of your daily interactions in the classroom by giving you an assignment to work through. What is enjoyable about this handy book is that you can pick it up anytime to find your favorite assignment or practice to use as needed. Even if you are needing a way to calm your nerves from other life changes, events and stressors, you will find that "The Zen Teacher" offers some guidance you may not otherwise consider. Final thought, whatever you do, remember to be there for yourself and the students.

Rita Barger-



Jaime Escalante

Jaime Escalante was a mathematics educator honored in the 1988 Hollywood production "Stand and Deliver." He worked with inner-city students at Garfield high in East Los Angles to help them learn calculus, starting where they were with not understanding fractions. He is being honored this year with a postage stamp. The Citizen Stamp Advisory Committee of 14 men and women appointed by the Postmaster General selected Mr. Escalante along with eight other people including Shirley Temple. Be on the lookout for this stamp at your post office. For more information you can click on the image:



-Rita Barger-Education News

Good Bye No Child Left Behind Hello Every Student Succeeds

On December 10, 2015, President Obama signed into law the reauthorization of the Elementary and Secondary Education Act. The most recent version of this act was commonly known as No Child Left Behind, and it did some really good things (and some really bad ones). On the good side, NCLB required all school districts to disaggregate their data; schools could no longer hide the fact that certain segments of their students were not performing well. Many formerly high achieving districts struggled with the fact that their minority students, or their ELL students, or their students with special needs were not represented in their otherwise high scores.

On the bad side, NCLB ushered in the high stakes tests that have so changed the landscape of today's schools. Young children were not allowed to learn through play because they had to prepare for the test. Teachers were threatened with loss of employment if their students failed to perform. And schools and districts fell to adequate yearly progress and the promise of eventual take-over if they failed to meet it.

The new version of the ESEA is being called "Every Student Succeeds." It returns control to states over their accountability measures and goals. If a state receives federal Title I money, it will have to continue assessing all students in grades 3 through 8 in mathematics. However, individual states will be free to develop their own standards and assessments, and they will be able to create their own accountability measures and goals. Closing the opportunity gap is still a part of the new law.

In addition, the new law strongly supports early education so students don't begin school behind their peers because they didn't receive early exposure to numbers or opportunities to develop number sense. It also mandates a significant investment in professional development for educators, principals, and teacher leaders. NCTM's president and leaders have been working with congress and the Department of Education to help define high quality mathematics instruction for all. Every one of us should keep alert to the changes that are being made not only at our district and school levels, but also at the state and national levels. KCATM will also be watching out for our members and providing hopefully helpful information. Let us know if you have questions about this legislation.

Does Technology Belong in the Math Classroom? *-Jan LaFevers*

This is a new part of the newsletter where we would like to hear from members about your experience with technology in the classroom. What are you finding that works well for your students and are you finding that the mathematical skills are carrying over from previous lessons as well? Our KCATM President Sarah Hicks noted about Fruit Plate Math, "I discussed the attached article with preservice teachers last semester and it was well received. I am still having fun looking at and exploring the app. It took me a little more effort

than expected to access the app because it is not made for mobile devices (unless it's recently been updated); I could only get it downloaded on an iPad."

If you get a chance to explore or share what you think about ST Math and Learnbop in comparison to other programs and applications, please email newsletter@kcatm.net

Brain Teaser— Rita's Corner

Sailboats

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Last issue's brain teaser asked you to find the sum of the first 12 triangular numbers. Thanks to those of you who sent me your answers. Correct answers were submitted by Mohamadou Diagana and Demicco Woods and that answer is 364.

I also have to include a correction. Last time I said that no one had sent me a solution to the previous brain teaser, but I was wrong. Mohamadou Diagana and Marcelina Lerios also had the correct answer last time.

For this month, we're going to think warmer weather and talk about sailboats.

Ten boats, winners from previous years, will be sailing in a triangular (4-3-2-1, point down as seen below) formation for the opening of the KCATM Regatta. Their bow markers are labeled with the different whole numbers, 0, 1, 2, …, 9. By order of the KCATM president, a mathematical hobbyist, they are to arrange themselves such that for any two boats sailing side-by-side, the sum of their labels modulo 10 (that means, taking the right-hand-most digit if the sum is greater than 9, e.g., 12 becomes 2) is equal to the label of the boat directly in front of and between them. For example (NOT a solution):

2 1 5 4
3 6 9
9 5
4

So here, you add the labels of the two boats in the second row to obtain the value of the label of the one boat in the lead: (9 + 5 = 14 = 4 mod 10), and so forth. In this example, not all of the numbers from 0 to 9 were used and some of the boats have the same number. In the correct solution, no two boats are labeled with the same number. The captains have a meeting the night before and come up with a solution. See if you can find one (or more) solutions.

Have fun. As always, please send your answers to me at bargerr@umkc.edu. I would like to list names of those who solve the teaser in the next newsletter.

Announcements

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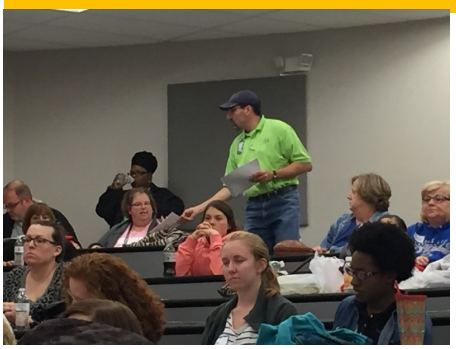
KCATM Math Conference –



MARK your calendar now because next fall's conference is November 5, 2016.

The KCATM board is pleased with the results from our Fall Math Conference. We noted that participants were pleased with the overall registration process and the variety of sessions offered. The length of sessions continues to be a question as some people really liked the 30 minute sessions and others thought they didn't have enough time. We value our members and look forward to a great year working towards providing more and better resources for KC area. Look for updates and information regarding KCATM hosting another NCTM regional conference in Kansas City for 2018.

Do you teach Computer Science or Computer Programming in a Missouri primary or secondary school? Belinda Copus, a PhD student at UMKC is currently gathering information about what is going on in Computer Science Education in Missouri. If you would be willing to share information about what course(s) you teach, which programming languages are taught, and resources used in teaching, please contact Belinda Copus, copus@ucmo.edu. If you know someone who is teaching Computer Science, would you share this information with them?

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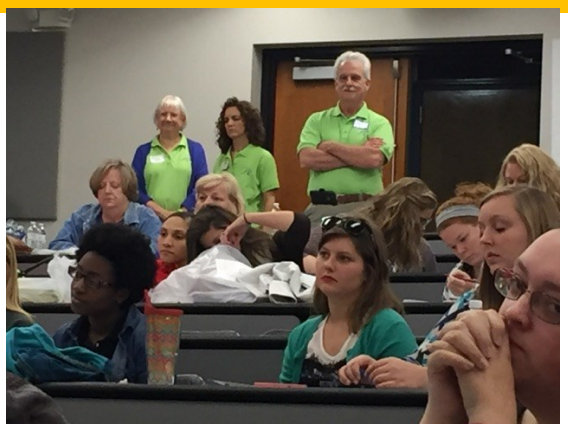

For more information about membership with KCATM, go to www.kcatm.net or contact Rita Barger at bargerr@umkc.edu.