

NOTES TO NERDS

Columbus Regional Math Collaborative

March 25, 2022

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Homepage:

CRMC.Columbusstate.edu

FACE-TO-FACE WORKSHOPS

Use the links below to check out upcoming workshops on our website!

Elementary School

Face-to-Face workshops are available to Muscogee County Schools at no cost to teachers! After the workshop, you will receive an evaluation. Upon completion, you will receive a certificate of attendance.

Take a look at the next page for our upcoming workshops!

UPCOMING WORKSHOPS

More of - With a Little You Can Change a Lot!

The Math Collaborative is back to face to face workshops. Whether you have come to a workshop before or this would be your first time, and you are a kindergarten to 2nd grade teacher, please join us for "More of - With a Little You Can Change A Lot."

What practices can a teacher leverage to get the greatest thinking from our students? How can we best create learners of mathematics not just doers of mathematics.

We at the Math Collaborative believe good things come in small packages. So, join us to learn about changes that can greatly impact students' reasoning, discourse, review of skills, and interest.

Grades K - 2

Tuesday, April 19th, 2022

8:30am - 3:30pm

Frank Brown Hall 1010

[REGISTER HERE!](#)

May 10, 2022

Spring Fling

5:30 pm - 7:30 pm here at the Mathematics Collaborative at Frank Brown Hall. Sharing ideas, connecting with friends ...and food.

[More Details to come!](#)



WHAT'S GOING ON

March 31st

Visit from the **nursing students at CSU.**

Resource teachers will practice some applied mathematics as nursing students prepare for the dosage calculations test!



Visitors to the Collaborative!

The Mathematics Collaborative had visits this past week from the scholars of **St. Luke**. The 8th graders from Ms. Morgan's classes solved systems of equations, surface area, and volume challenges, and factored quadratics! The energetic Third graders balanced equations, explored the magnitude of numbers, and much more! If your school would like to come for a field trip contact us!

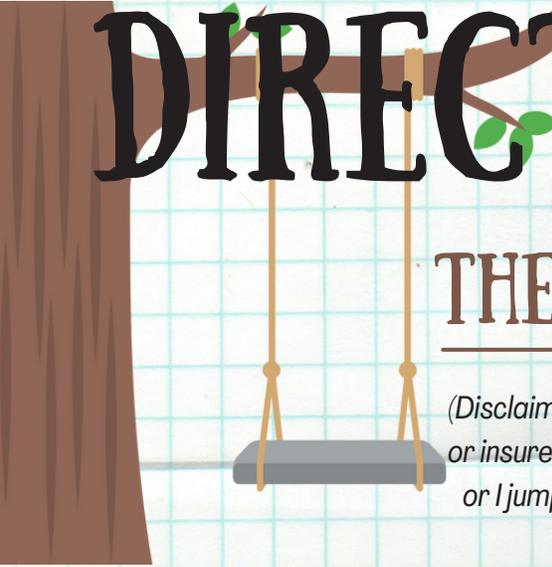
Teachers in the HOUSE!

Elementary - Middle - High School

The Mathematics Collaborative had three face-to-face workshops this week! **30 Teachers** from three different counties and over a dozen schools engaged in activities proven to help students grow (but don't add extra duties for the teacher)

- It was also a time to renew the teaching soul!-
We can all use that this time of year.

DIRECTOR'S NOTES



THE OLD ROPE SWING

*(Disclaimer... Jumping or swinging from trees is discouraged unless properly supervised, trained, or insured. And further ... **Note to my mom:** I will neither confirm nor deny that any of my siblings or I jumped out of the oak tree near our home. And if it did happen ... it was my brother's fault.)*

As I sit down to write a note for this week, I'm thinking of a rope swing in an oak tree near my childhood home. The limbs of the tree bend gracefully around the swing creating a canopy that provides shade and playful space. Those same limbs gave me a perch from which to jump with the rope around my hips, allowing me to fly like a bird in great long arcs. Until gravity brought me to a happily-dizzy rest, or an impatient little brother brought me to a halting stop wanting his turn to fly.

So, back to work now.

I've been lucky to visit some great classrooms as director of the Mathematics Collaborative. In some classes, students are joyfully engaged in their work. In other classes, there is a laser focus and earnest prep for the ever-impending end-of-course test. Students and teachers are a team working toward an end. Many math classes, however, are struggling for a variety of reasons. In almost every class, the teachers work hard, oftentimes way too hard. It is a blessing to see that, as well. I know their hearts. I have been that teacher who works much harder than the students. It is exhausting.

I've noticed that in the happy classrooms, almost without exception, the work is meaningful. It's not always a mathy meaningful for the students. But it is significant in that the work is respected and expected by both teachers and students. I admire teachers who create this environment. I've seen it done with both gifted and particularly-ungifted classrooms. I tell you this because I think the happy and engaged classroom is within almost every teacher's grasp; I bet it's within yours.

It will require a different kind of thinking and acting on the teacher's part.

And that can be very scary.

Maybe that old oak tree and swing aren't too different from our classrooms.

We can be that teacher who keeps our students going by pushing and pushing. Just like the old rope swing, though, to keep them swinging, you have to keep pushing. It can be done, but it's a lot of work.

Or, you can be that teacher who inspires students to climb up to a branch. Leaning into the security of the rope, they confidently lift their feet from the limb taking flight under the classroom's canopy.

My metaphors get a little crazy, I imagine.

But if you're ready for some good change, talk to me.

We've got some solid (and safe) ideas about how to do this.

Here is my email: anderson_peter2@columbusstate.edu

Happy Maths,

Pete

MATH MASTER'S NEWS



MATH MASTERS WAS A HIT!

Wow! Math Masters was a hit! Over 80 students from 11 schools, A dozen and a half Master teachers, and as many Math Coach Heros enjoyed a morning filled with fun math challenges! Each team earned the digits of Pi as they presented their solutions!



RICHARDS MIDDLE SCHOOL earned the most digits of Pi!

MORE MATH MASTER'S



BLACKMON ROAD MIDDLE SCHOOL within a single digit of Pi!



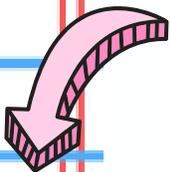
Followed by **FAITH MIDDLE SCHOOL**

NO DOUBT ALL OF THE TEAMS MADE GREAT PROGRESS WITH THE CHALLENGES PRESENTED TO THEM! THANK YOU TO OUR MASTER TEACHERS, AND ESPECIALLY TO EACH OF THE MATH COACHES! WE HOPE TO SEE YOU NEXT YEAR FOR MATH MASTERS

- THE NEXT DECADE!

(and who is the guy in the wizard's hat?)

Sample Challenges you can use
on Page 7!



MATH FOR YOUR CLASS

Challenges from Math Masters - Use them in your class!

Math Masters is as much about process as it is about solving for a solution. We encourage you to use these challenges in your class - focusing on student process, multiple approaches, and communication. Students will surprise you ... and themselves!



Class Average



In Professor Cody's mathematics class, 36 students took the final exam. If the average passing grade was 78, the average failing grade was 60, and the class average was 71, how many of these 36 students passed the final?



Be prepared to justify your solution.

Solutions can be found at this link: [CRMC Math Masters](#)

MATH FOR YOUR CLASS

Challenges from Math Masters - Use them in your class!



Who Needs Change?

Archimedes, Brahmagupta, Carl, and Diophantus has just finished lunch in a restaurant and were paying their checks.

- ❖ The four men, each of whose coins totaled one dollar, had the same number of silver coins.
- ❖ Archimedes had exactly three quarters, Brahmagupta had exactly two quarters, Carl had exactly one quarter, and Diophantus had no quarters.
- ❖ The four men had to pay the same amount; three paid the exact amount, but the fourth required change.

Who required change?

Note: "Silver coins" may be nickels, dimes, quarters, or half dollars.

Be prepared to justify your solution.

Solutions can be found at this link: [CRMC Math Masters](#)

MATH FOR YOUR CLASS

Challenges from Math Masters - Use them in your class!

All Smiles Part One

This is a two-part problem.



Stage 1



Stage 2



Stage 3

Part One:

Without algebra, describe how you see the shapes growing. Once you have one description, look again to find another way. Report both of your descriptions to the Master Teacher. When the Master Teacher is satisfied with your descriptions, you will receive part two of this problem.

Your task is to create your descriptions.

Be prepared to justify your descriptions.

Problem Scoring

Part One
1 point

All Smiles: Part Two

Part Two:

What does Stage 4 look like? How many smiling faces are in Stage 4? Generate a formula that will determine the total number of smiling faces necessary to build the n^{th} case for the growing shapes. Be prepared to justify each aspect of your formula with respect to the growth of the shapes or the structure of the geometric aspects of the shapes. You will earn 1 point for the drawing and the formula and an additional 2 points for the explanation.

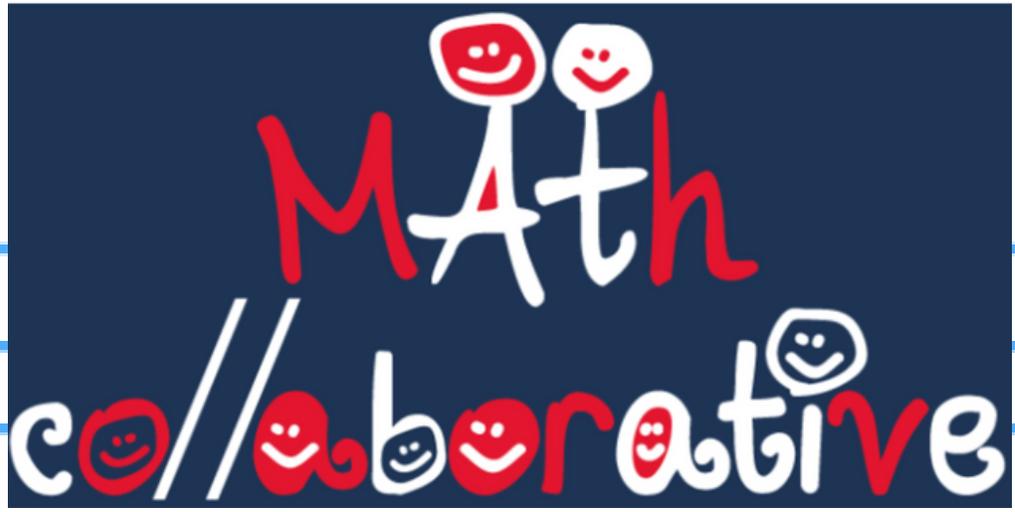
Your task is to draw Stage 4 and derive the n^{th} formula.

Be prepared to justify your solution

Problem Scoring

Part Two
1 point for the drawing
2 points for the explanation

Solutions can be found at this link: [CRMC Math Masters](#)



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