

Math in Action

February 26, 2022

Schedule

Morning			My Schedule	
Session	Start Time	End Time	Room	Session Title/Speaker
Registration D-wing Hallway	8:00 am	8:30 am		
A	8:40 am	9:40 am		
B	9:50 am	10:50 am		
C: Keynote or Brunch	11:00 am	12:00 pm		
Afternoon				
D or Lunch	12:10 pm	1:10 pm		
E: Keynote or Lunch	1:20 pm	2:20 pm		
F	2:30 pm	3:30 pm		

Dear Colleagues,

Welcome to Math in Action! There are six hour-long sessions with something for every grade level to be found in each. This year we are excited to offer sessions in multiple modalities. Presentations labeled “online” have a remote speaker, and in-person participants can view these online presentations together in the respective rooms. Presentations labeled “hybrid” have an in-person speaker, and online participants can view these presentations via Zoom.

We are especially excited to welcome our keynote speaker, Amanda Jansen, who will speak twice on, “Rough Drafts and Revising in Mathematics,” during both Sessions C and E. You are also invited to continue the conversation with Dr. Jansen during Session F.

You should find a meal ticket behind your nametag badge. You may choose to enjoy brunch during Session C, or lunch during Sessions D or E. If you have any questions, please find us at the registration table.

Please fill out evaluations for each presenter in an online form. Visit the link (or use the QR code) below.

Sincerely,

The Math in Action Steering Committee

Wifi login: Join “GV-Visitor” and accept the terms. No password is needed.

Presenter files will be available at:

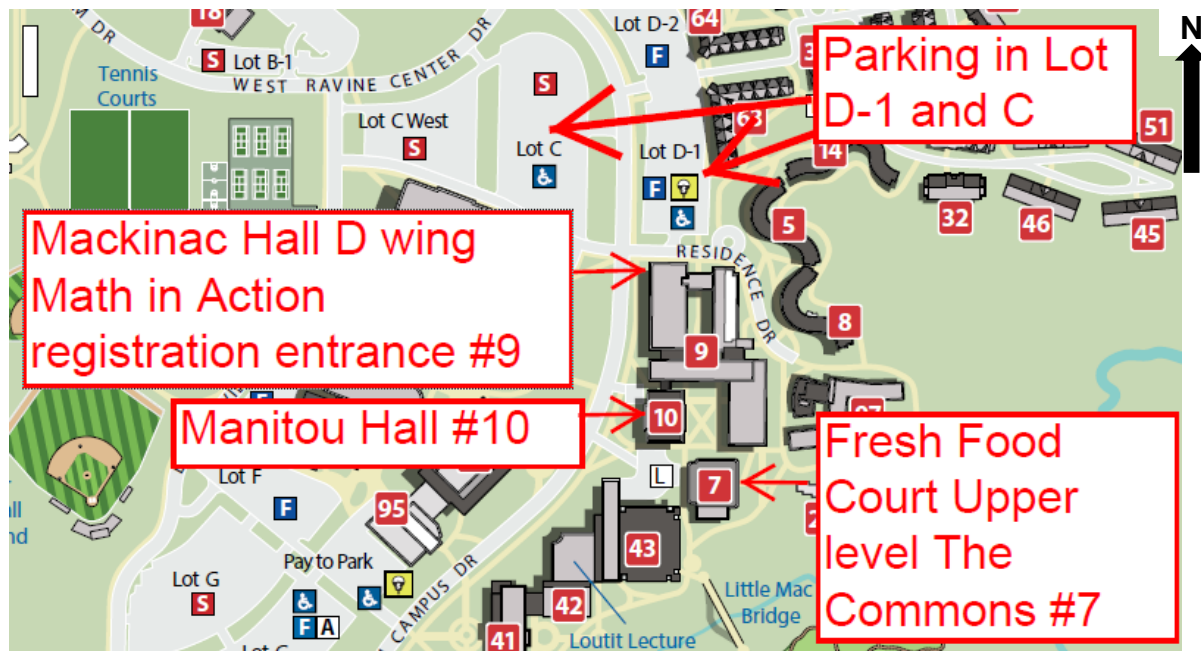
<https://www.gvsu.edu/mathinaction/2022-conference-files-14.htm>

Session Evaluations:

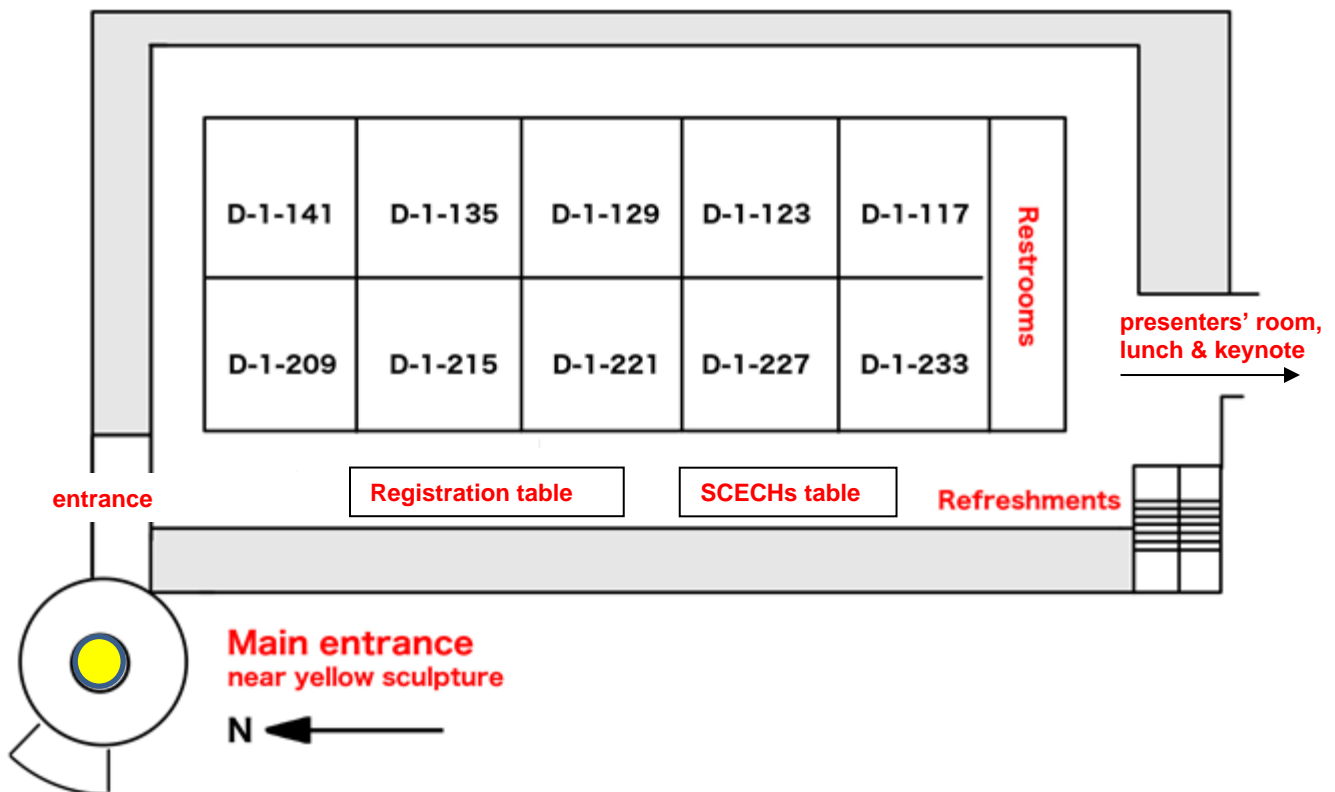
Please evaluate each session that you attend! Scan this QR code or go to:

<https://www.gvsu.edu/s/1Br>





Mackinac Hall D Wing



Session A: 8:40 – 9:40 am

Session	Room	Grade	Session Description
A1	D1209 hybrid¹	PreK-2	Re-humanizing Mathematics: Cultivating Joy and Beauty from Within <i>Jill Griffin, Michigan Department of Education and Mo Thomas, STEM Connect</i> Our Universe holds amazing clues about who we truly are when we look beneath the surface. We will explore a unique approach to unlock children's incredible inner beauty to create space for creativity by using Black Holes imagery, memories, and mathematics.
A2	D1215 hybrid¹	3-5	Math History <i>Shari McCarty, Aquinas College with Amanda Armstrong, Theresa Gordon, Chiara Hemsley, Carolyn Hills, & Robert Karel, Aquinas College Students</i> Help students learn that mathematics was created by real people attempting to solve real problems. Their historical achievements with diverse interests will help your students learn to appreciate the accomplishment of others while engaging in fun and unique mathematics.
A3	D1221	6-8	5 Questions to Support Students' Problem Solving <i>David Coffey and Ginger Rohwer, Grand Valley State University</i> The first Standard for Mathematical Practice is: Make sense of problems and persevere in solving them. In this session, we introduce a metacognitive problem-solving tool that can support students' sense-making and perseverance as they solve real-world mathematical problems. <div style="text-align: right;">Participants should bring a laptop.</div>
A4	D1227 hybrid²	9-12	Empowering Mathematics <i>Zach Cresswell, Mt. Pleasant High School</i> Mathematics should empower. Drawing on my experience designing a math elective called, "Critical Thinking," I will define empowerment, juxtapose it with social justice education, and propose apolitical methods to develop courageous problem solvers. We'll also complete some Critical Thinking activities! <div style="text-align: right;">Participants should bring a phone/tablet.</div>
A5	D1117	9-12	Mathematical Surprises and Challenges <i>Timothy Pennings, Davenport University</i> George Polya said the essence of mathematics is solving problems. This highly interactive talk engages and surprises with mathematical puzzles and challenges which use elementary mathematics to give counterintuitive and mind-boggling results showing the power of mathematics and creative thought.
Online² via Zoom	D1223	6-12	Graphic Novels: A Teaching Strategy for Middle and High School Mathematics <i>Dave Klanderma, Calvin University and Sarah Klanderma, Marian University</i> Join us to learn ways to engage and excite students about geometry and algebra and to extend student mathematical understanding through graphic novels in mathematics class. We will discuss different pedagogical strategies and multiple graphic novels with links to mathematics.

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Session B: 9:50 – 10:50 am

Session	Room	Grade	Session Description
B1	D1209 hybrid¹	PreK-2	Purposeful Math for Home to School Connections <i>Shari McCarty, Aquinas College with Ann Chambers, DeSamuel Curtis, Heriberto Deleon, Amy Door, & Andrea Dudley, Aquinas College Students</i> This interactive session will have you identifying opportunities children bring from home into your classroom to make purposeful mathematics connections. Understanding students' cultural and homelife backgrounds may not immediately seem mathematical, but this session will have you changing your minds!
B3	D1221	6-8	Helping Students Read Mathematics <i>Gregory Beaudoin, University of Iowa</i> When I first spoke about mathematical reading at Math in Action, I was asked "what can I do in my classroom?" I had no answer. Some years and a dissertation later, I have suggestions.
B4	D1227 hybrid¹	9-12	Build Better – Cleaner – Review Games <i>James Young, Mt. Pleasant High School</i> Free range review days are awful in the best of times. We'll discuss how to use games to provide structure and engagement to these important parts of our curriculum while maintaining social distance and still having fun. Participants should bring a laptop.
B5	D1117	9-12	Implementing Thinking Classrooms <i>David Sladkey, Naperville Community School District IL</i> Reading Peter Liljedahl's, <i>Building a Thinking Classroom in Mathematics</i> , this past summer has been transformative. I am finding my students are doing more thinking on their own than in the past. Join me as we explore the #thinkingclassroom together.
B6	D1123	various	My Favorites <i>Various</i> Several short presentations. Each speaker will give a quick introduction to one of their favorite activities, tools, or websites, etc. Come get inspired!
Online² via Zoom	D1223	3-5	Fostering Collaboration in the Math Classroom <i>Jessica Tufnell and Sarah Goldner, Kent City Elementary School</i> Gain some strategies on ways to engage and facilitate collaboration with your mathematicians.

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Session C or Brunch: 11:00 am – 12:00 pm

Session	Room	Grade	Session Description
	MAN 102 hybrid¹	PreK-5	KEYNOTE – Rough Drafts and Revising in Mathematics <i>Amanda Jansen, University of Delaware</i> Mathematics teachers strive to create classrooms where students feel safe to share their thinking during class discussions, where students can see themselves as capable of doing and learning mathematics, and where teachers and students alike recognize and celebrate growth in mathematical thinking. One way to achieve these goals is by promoting rough drafting and revising in mathematics class! In this talk, I will share how rough draft thinking can invite students to feel welcome to share their thinking while it is still in progress. I will also share strategies teachers can use to promote revising to promote and honor growth and improvement in students' understanding. We will think together about the importance of having a strengths-based orientation toward students' thinking in mathematics classrooms. <i>This keynote will also be offered during Session E for grades 6-12.</i>
C3	D1221	6-8	I've Been Meme-ing to Speak with You. <i>Gregory Beaudine, University of Iowa</i> What do you meme that's not mathematics? The goal of this session is to explore ways to engage students in the study of mathematics through the use of internet memes.
C4	D1227	9-12	Using Proportions and Trigonometry to Find Height Indirectly <i>Chris Conrad, Allegan High School</i> Participants will use various tools-- notecards, pencils, mirrors, protractors, directional compasses, and tape measures to use proportions and trigonometry to indirectly measure heights and distances. Let's get out of our seats and get learning. <i>Participants should bring a phone/tablet.</i>
C5	D1117 hybrid¹	6-12	Leveraging Desmos to Increase Engagement and Thinking <i>Ben Herman, Holland Christian Middle School</i> We will explore specific Desmos activities and features available in the Desmos Teacher Dashboard that can help increase engagement, thinking, creativity, and confidence in your learners. <i>Participants should bring a laptop.</i>
C6	D1123	9-12	SAT Prep <i>Carolynn Cone, Creative Technologies Academy</i> Integrating SAT Practice into your regular math classroom and/or teaching a full SAT Prep course. <i>Participants should bring a phone/tablet.</i>
Online² via Zoom	D1223	9-12	Math Nation: More than Just Videos <i>Jillian Hartman, Dr. Tiffany Arnold, Math Nation</i> Math Nation is ready to roll out its first Math in Action Video Series - Michigan Edition! In partnership with the Kellogg's Corporation, we are able to provide you with videos filmed on-site and corresponding activities aligned to the Michigan State Math Standards. Attend our session and you will leave with activities that are ready for you to implement tomorrow! Come dive into the new and innovative features of Math Nation. This session will look at these new state-funded resources, explore strategies for folding in the old & new, and spend time collaborating to bring math to life in a technology-filled classroom.

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Session D or Lunch: 12:10 – 1:10 pm

Session	Room	Grade	Session Description
D1	D1209 hybrid¹	PreK-2	Dramatic Play is Mathematical! <i>Shari McCarty, Aquinas College with Freddy Cavazos, Alicia Evicks, Stacy Fellows, Andrew Moore, Austyn Sabin, & Emma Urbanski Aquinas College Students</i> We will give you classroom-ready ideas of how to utilize the dramatic play your students routinely engage in to infuse mathematical ideas. With purposeful in-the-moment questions disguised as casual conversation, you will see the value of student devised context.
D2	D1215 hybrid¹	3-5	Feeling Anxious About Teaching Elementary Math? Draw on Your Strengths as a Literacy Teacher. <i>Lisa Hawley, Michigan State University</i> We can draw on teaching practices from literacy (e.g., representing children's lives in literature, facilitating discussions, differentiating supports) to enrich our math instruction. Based on my content analysis of two teacher journals, we will explore these ideas and more. <div style="text-align: right;">Participants should bring phone/tablet.</div>
D3	D1221	5-8	Middle School Math Games <i>John Golden, Grand Valley State University; GVSU GAMES Students</i> Geometry, fractions, operations and prealgebra games developed and play tested by senior GVSU preservice teachers. We'll play and discuss the games and provide the resources necessary for playing these and other games in your classroom. All games are printable and free.
D4	D1227	9-12	Standards-Based Grading: What, Why, and How? <i>Jon Hasenbank, Grand Valley State University; Victoria Klaas and Lauren Schoen, Grand Valley State University Students</i> Learn how to implement Standards-Based Grading into classrooms in a meaningful and practical way. Understand the importance of SBG and how it can be used to truly measure a student's understanding. Includes examples from algebra and more.
Online² via Zoom	D1223	9-12	Using GeoGebra to Formulate Problems and Conjectures <i>José Contreras, Ball State University</i> Participants will be engaged in formulating problems and conjectures related to the Varignon problem using four main strategies: Specializing, generalizing, extending, and reversing. We will use GeoGebra to test our conjectures and then develop proofs to reformulate them as theorems.

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Session E or Lunch: 1:20 – 2:20 pm

Session	Room	Grade	Session Description
	MAN 102 hybrid¹	6-12	KEYNOTE – Rough Drafts and Revising in Mathematics <i>Amanda Jansen, University of Delaware</i> Mathematics teachers strive to create classrooms where students feel safe to share their thinking during class discussions, where students can see themselves as capable of doing and learning mathematics, and where teachers and students alike recognize and celebrate growth in mathematical thinking. One way to achieve these goals is by promoting rough drafting and revising in mathematics class! In this talk, I will share how rough draft thinking can invite students to feel welcome to share their thinking while it is still in progress. I will also share strategies teachers can use to promote revising to promote and honor growth and improvement in students' understanding. We will think together about the importance of having a strengths-based orientation toward students' thinking in mathematics classrooms. <i>This keynote will also be offered during Session C for grades PreK-5.</i>
E2	D1215	3-5	Street Data – Learning from Voices on the Ground <i>Marcus Deja, Kent Intermediate School District</i> It's easy for districts, buildings and schools to get lost and confused by standardized testing data. This session will focus on a new paradigm of bringing voices of teachers, students, parents and stakeholders into the data picture.
E3	D1221 hybrid	6-8	Formative Assessment: The Nuts & Bolts <i>Tara Maynard, Zeeland Public Schools</i> Come see how formative assessment can change lessons. We will view data reports and see ways class can be changed, students could be grouped, assignments could be given, etc. Let's USE the data to change our instruction.
Online² via Zoom	D1223	PreK-2	Essential Instructional Practice in Math: PLAY! PLAY! PLAY! <i>Kim Fox, Calhoun Intermediate School District and Geraldine Devine, Oakland Schools</i> What comes to your mind when you think of children "tinkering" in mathematics? Young children need to play and have FUN while engaging in rich activities as they can begin to see themselves as knowers and doers of mathematics. In this session, you will learn how to spot opportunities in the classroom to help children engage in rich mathematical discussions during play.

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Session F: 2:30 – 3:30 pm

Session	Room	Grade	Session Description
	MAN 102 hybrid¹	PreK-12	KEYNOTE: Continuing the Conversation <i>Amanda Jansen, University of Delaware</i> Come join Dr. Jansen for a continuing conversation on the topics discussed in her keynotes.
F1	D1209	PreK-2	Early Number Games <i>John Golden, Grand Valley State University</i> Play tested with 1st graders and Kindergarteners, this session will have several simple number games designed to work on important number concepts, like hierarchical inclusion, comparison, etc., and number skills, like decomposition, counting on and the like. These games use simple materials, with no need for excessive printing. We'll discuss the ideas and play the games in stations.
F2	D1215 online²	3-5	Dyscalculia: The Math Learning Disability <i>Honora Wall, Concordia University Chicago</i> This session defines dyscalculia, summarizes the research on this Specific Learning Disorder, and describes how dyscalculia presents in the classroom. Specific interventions and accommodations will be presented that can be immediately used in any classroom.
F3	D1221	6-12	Data Literacy Across the Curriculum with Slow Reveal Graphs <i>Bradford Dykes and Tamara Shreiner, Grand Valley State University; Amanda Wilder, Grand Valley State University Student</i> Slow reveal graphs (SRG) are instructional tools used to make sense of data allowing for in-depth discussions on what students are noticing and wondering. Participants will review and create SRG and discuss how SRG can encourage collaborations beyond math. <div style="text-align: right;">Participants should bring a laptop.</div>
F4	D1227	9-12	Spherical Geometry in the Classroom <i>William Dickinson, Grand Valley State University</i> Most mathematics instructors are familiar with the basic properties of lines, circles, angles, and triangles in Euclidean geometry. During this session we will ask, what happens when you move them into spherical geometry and your classroom? <div style="text-align: right;">Participants should bring a laptop.</div>
F5	D1117	9-12	Playing to Learn – Using Games to Teach Concepts <i>James Young, Mt. Pleasant High School</i> We'll play two roll-and-write games (think Yahtzee) that I have developed to teach probability and exponential growth, then discuss how and why you might do the same for your content.
Online² via Zoom	D1223	9-12	Engaging Students with Calculus on ZOOM: Turn on the Camera <i>Filiz Dogru, Grand Valley State University</i> I will discuss the importance and strategies of student engagement in a ZOOM class, and share sample activities for a ZOOM calculus class. The audience will have the opportunity to work on activities and give feedback.

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THANK YOU!

- ❖ **PRESENTERS:** We appreciate your preparation, expertise, time, and consideration. Thank you for your high level of engagement in mathematics education and for sharing that expertise in enlightening us!
- ❖ **PARTICIPANTS:** Thank you for your curiosity, dedication, and interest in your own learning and that of your students. Your participation today says a lot about you and is most appreciated!
- ❖ **JAN KUZEE** (GVSU Department of Mathematics): Thank you for all the years of service helping this conference run. Congratulations on retirement! We wish you all the best!
- ❖ **ANA VANBRAGT** (GVSU Department of Mathematics): Thank you for jumping in and helping with all the details, no matter how big or small; the facilities, arrangements for refreshments, meals, tables, coat racks, and a million others. Without you behind the scenes, there would be no conference!
- ❖ **SHELLY MICHO** (Regional Math and Science Center): Thank you for taking care of the flyers, programs, registration, signage, and many other details. Without you, Jan Kuzee, and Ana VanBragt there would be no conference!
- ❖ **STEERING COMMITTEE:** Your work in determining the experts to address major issues and mathematical concepts, contacting speakers, organizing the program, advertising, and volunteering during the day of the conference provide an enriching experience for all of us. Thank you for your many hours of thoughtful dedication.
- ❖ **VOLUNTEERS:** Making certain that everything goes smoothly on the day of the conferences in every session, helping speakers carry and distribute materials, orienting participants to the environment, and all the other things you do to support the conference is greatly appreciated!

Sincerely,

Taylor Short & Paul Yu
Math in *Action* GVSU Co-Chairs

MATH IN ACTION STEERING COMMITTEE MEMBERS

Jan Kuzee, GVSU Site Director
Dan Adrian, Grand Valley State University
Rusty Anderson, Kent Intermediate School District
Julie Clark, Jenison Public Schools
Robyn Decker, Ottawa Intermediate School District
Kristin Frang, Muskegon Intermediate School District
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