

CAMT 2018 Sessions (Grades 9-12/College)

Opening Sessions, Monday 8:00 AM-9:30 AM

<p>Heartprint: Living a Fully Engaged, High Energy and Well-Balanced Professional Life!</p>	<p>In this inspirational address, Dr. Timothy Kanold draws from his new book HEART! Fully Forming Your Professional Life as a Teacher and Leader, to provide research, insights, and tools from thought leaders inside and outside our education profession. He examines ways for mathematics educators to lead an energetic, happy, and well-balanced professional life. The relational expectations, give and take, and daily chaos of our school life and culture can sometimes be overwhelming. By understanding the impact of their effect on others, participants can become more inspiring, more fully engaged in their work, and have a magnified impact on students and colleagues—season after season.</p>
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Extended Sessions, Monday 10:00 AM - 12:00 PM

<p>Feedback That Feeds Forward 9-12</p>	<p>"Feedback is only effective if it is a catalyst for change in student learning. Effective feedback is timely, descriptive, and specific to both the work and the student's needs. In effective feedback episodes, both the teacher and student learn something. Effective feedback is coupled with immediate opportunities for students to use it. Participants in this session will analyze examples of feedback and learn feedback strategies that help students answer the question, "Where am I now, and what do I do next?" Participants in this session will: -- Look at feedback through three lenses -- Learn to provide effective feedback messages to students -- Learn to create opportunities for students to use feedback and improve."</p>
<p>So, Is Failure Really an Option?</p>	<p>Wanting to help your students succeed with failure? What does that mean for how we approach teaching and learning mathematics? What connections are there among equity, grit, resilience, a growth mindset, and failure that can help you help your students? Explore activities, participate in conversations, and leave with tools.</p>

Monday, 10:00 AM-11:00 AM

<p>Exploring Piecewise Functions on Graphing Calculators</p>	<p>"Allow your students to have choice and voice in your Algebra 2, College Algebra, and Pre-Calculus classes with these Piecewise function activities. First, we'll look at some real-life examples of where Piecewise functions occur, then we'll move to some fun graphing-calculator activities that allow students to show how much they are able to "piece together" the content!"</p>
<p>Mathematics Mastery Strategies</p>	<p>Do you teach high-school students with serious math deficiencies? Then this session is for you! We will give you strategies and systems to promote mastery of your course, allowing students to fill in their gaps. We have implemented these strategies in our classrooms and want to share what we've learned. You will leave this session with a new outlook, materials and strategies you can take back to your classroom to use immediately—any level from Algebra 1 to Calculus—and door prizes!</p>
<p>Meetup for Teachers of Struggling Algebra I Students</p>	<p>"Do you teach struggling Algebra I students? If so, come network and learn with fellow educators who are interested in supporting struggling Algebra I students, including those in double-block classes. This highly interactive gathering will start with a basic discussion of emerging trends in the field. You'll then have a chance to focus on practical application of various support strategies in classrooms, schools, and more. Bring your ideas and questions! We provide a structure for participation and conversation. Participants will be encouraged to add their own stories and wonderings to the discussion. Leave with inspiration, fresh ideas, and new collaborators. Optional: bring contact information or business cards to share."</p>

The Why, When, Where, and Who of Residuals	"Part One: Participants will form groups, be given a scatterplot relating homework average to test 1 grade and use uncooked spaghetti to estimate a line of best fit. If time allows, participants should calculate the equation of the line using two points. Next measure the vertical distance from each point to the spaghetti. Record the positive measures, negative measures, zero measures and the sum of all the measures. Part Two: Use a graphing calculator to determine the least square linear regression model, graph it on the scatterplot and repeat the above steps. Fill in the table. Discuss r and r^2 in terms of the data set and independent/dependent variables. Part Three: Compare, contrast, and discuss the spaghetti line residuals to the calculator line residuals. Graph the residual plots and discuss important patterns of residual plots and what they mean in terms of regression models. Discuss what would happen to different regression models in terms of sample size, extrapolation and the logical domain of the data set."
Algeblocks—Complete the Square	Come learn how to solve quadratic equations by completing the square with Algeblocks. Participants should come to the session with a basic knowledge of Algeblocks or Algebra Tiles.
Allowing First-Year AP Experiences to Spark Second-Year Successes	Whether you're a brand new teacher or just new to the AP world, the first-year is a roller-coaster of hard challenges and great accomplishments. You have had many victories, but also want to make many improvements for the next year. We will reflect on the experiences of your first year and explore how to leverage those ups and downs into the next year. Participants will explore how to incorporate new techniques and strategies into what worked well the year before to launch your classroom to second-year success!
Horizontal Transformations on Linear and Quadratic Functions	Is it difficult for your Algebra I students to understand transformations with linear functions? Are students struggling with horizontal transformations with quadratic functions? Come experience ways to help develop your students' understanding of transformations in Algebra I.
The TI-Nspire Navigator™ System—Activities for Beginners (TI)	Do you have a TI-Nspire Navigator System, but don't know how to use it? Are you just starting with a TI-Nspire CX Navigator System and want to learn more? This hands-on session will demonstrate many features of the TI-Nspire Navigator system to help you get started. Learn how to use screen captures—how to make and send quick polls—where to find Navigator activities and how to transfer them to student handhelds. For beginners, but even experienced users will learn something new.
Should I Insure My Phone? Games and Mathematics for Modeling Risk	"When facing risk, we need to use math to make good decisions by calculating expected value. In this workshop, play a series of dice-games to model decisions around purchasing different kinds of insurance and look at how using expected value informs these questions. Participants will receive classroom-ready activities they can use in their teaching. Participants will first learn about expected value, and reflect on some initial questions about how it relates to insurance. Participants will then learn (through playing) how dice games can be used to model insurance decisions, and how these games provide students with an application for expected value. We will discuss how such games can be used in the classroom and provide materials for teachers to use with their students."
Using Different Methods to Teach Geometric Proofs	We will look at teaching high-school geometry proofs using three different methods as described in the TEKS: paragraph proofs, flow-chart proofs and, of course, the 2-column proofs.
Fold with Focus: First Steps and Decisions with Foldables®	"Do you wonder where to begin implementing Dinah Zike's Foldables® in your classroom? Do you leave a Foldable session motivated and inspired, then find yourself overwhelmed at the prospect of using this highly-effective strategy with students? This session is for you! Clear hurdles to implementation in this highly engaging and interactive presentation. Leave ready to address TEKS standards, vocabulary, and more—find your focus with Foldables®!"
High-Quality Mathematics Teacher Professional Development	"NCTM (2014) calls for mathematics teachers to ensure success for all students. As facilitators of mathematics professional development, we are challenged with supporting teachers making the transition toward enacting the guiding principles and practices. This session discusses components and research to determine how high quality MPD meets the needs of mathematics teachers as well as impact student achievement."

Kids are Fearless: Let Primary School Students Use Child-Friendly Apps to Build Digital Portfolios	"Secondary students are required to understand and use technology in this day and age. Why do we expect secondary students to understand technology if they have no chance to use it in the primary ages? Most apps providing digital portfolios are for older students, and it is easy to see why. Older students are very creative, and often know how to express their own thoughts on and off of paper. However, we should also be looking to younger students to build their portfolios at as young an age as six. There are child-friendly apps for use that can do just this. This session will cover growth tracking, accommodation, and documentation. Although this session focuses on one digital portfolio app, this is just scratching the surface of resources at our students' fingertips!"
Math Learning Disabilities, Dyslexia and ADHD: Remediating Effectively	"When we hear dyslexia, we think reading and writing, but 80% of people with Specific Language Impairments and 31% of people with ADHD struggle with math. Yet, many students miss out on high-quality mathematics remediation because schools and parents so frequently focus on literacy. Through lecture supported by powerpoint, discussion, and hands-on activities, Diana Kennedy will explore explicit teaching, concept/procedure integration, incrementation, error analysis, and accommodations for teaching students with MLD. Participants will leave with games, lessons, and approaches to help all math students excel."
Problem Strings: A Powerful Instructional Routine	"A Problem String is a powerful lesson format where all students learn, have access to the problems, and are challenged. The success hinges on the teacher's purposeful question order, class discussion, and modeling student strategies to build connections. In this extended session, you will experience a variety of problem strings across the grade levels. We will also unpack the elements of the routine—how they work together to increase access for all students to sophisticated mathematics. Want to get your students really thinking and mathematizing? Come join us!"
Tech Tools Perfect for Teaching Math TEKS	"The Standards for math stress real-world relevance, creative problem solving, collaboration, and communication. In this session, we will provide teachers and students with mathematics relevant to our world today and easily search a collection of real-world scenarios by category or math level. These real-world questions combine media with interesting challenges involving math. We will explore Math Map challenges using google maps and Google documents for collaboration in the classroom. Tackling real-world problems can be daunting for students who may be used to completing practice problems out of a book. Encouraging students to work together to identify what they know and need to know creates a support system. Asking students what they have learned and how they can apply what they have learned allows them to reflect as a group and collaborate to extend their understanding of a mathematical concept. Come learn how to creatively teach using technology!"

Monday, 11:30 AM - 12:30 PM

Geometry Transformation Activities with the TI-Nspire™ CX Technology (TI)	During this hands-on session, attendees will use the TI-Nspire CX handheld to explore a variety of geometric transformations to support instruction of geometry TEKS and to prepare for STAAR exams. The handheld features built-in interactive geometry capabilities and has additional unique functionality. The TI-Nspire CX Navigator System will also be used for instruction.
Let's Have Some Fun with TI-Innovator Hubs!!!	Have you seen TI's Innovator Hub with Launch Pad technology (www.ti-innovator.com)? Using coding and TI-Nspire CX handhelds, this hands-on session will explore activities using the Innovator hubs. These devices can be programmed to do some very interesting things—STEM and more. Let's see if we can convert curiosity into understanding.
Party of Four Please—Differentiation At Its Best!	"In this session, participants will experience the restaurant classroom. For this instructional model, teachers learn to play the role of the host/facilitator, students are given choice in their learning experiences, and differentiation is maximized. This presentation gives participants the opportunity to discuss how the restaurant strategy could be used to enhance their classroom learning experiences."

Using Nearpod in the Math Classroom	"Are you tired of students using their phone during class time? Are you tired of students not really participating during a lesson? Nearpod is a solution to both of these issues. Participants will be shown how to incorporate Nearpod into a math classroom. They will be instructed on best practices, as well as given support for creating their own lessons using Nearpod. This site allows teachers to create lessons where students can interact throughout the lesson. Teachers are able to add quizzes, polls, drawing panels, virtual tours, 3-D objects, built-in games to the lessons, and much more!"
Fostering Small-Group, Student-to-Student Discourse	Simply putting students in groups is not enough to improve mathematical thinking. The quality of the student-to-student interaction affects the development of understanding. Teachers must support students in learning how to communicate effectively, which is an integral part of the process standards. This session will guide teachers in how to interact with their students while they are working collaboratively to promote and improve student-to-student communication.
Calculator Activities to Help Students Prepare for the SAT and ACT Exams (TI)	Pick up the best tips for preparing your students to make best use of their graphing technology on high-stakes exams. This hands-on session will explore important strategies for technology use to help students develop understanding of highly-tested topics and make use of this tool strategically. Additional information and useful test preparation tools can be found at www.education.ti.com/go/testprep .
#GreatTasks and #Technology = Math	"A great task engages students with an interesting problem involving essential content. It builds deeper understanding, supports discourse, and provides the opportunity to persevere. Participants will learn how a task engages students with an interesting problem involving real-world settings, as well as see how technology enhances and encourages thinking. Two examples using mathematics, both involving STEM concepts, will be shared. Participants will discuss, explore these problems, and then share tasks they use that fit the criteria of a great task."
Enriching Tasks Using Desmos	This session will show you how to implement tasks that promote reasoning and problem solving using Desmos. We will get simple tasks and learn how to enrich them using Desmos. We will also explore pre-created activities that are ready to implement in your classroom.
The Power of Multiple Representation	"Graphs, tables, and equations, oh my! The best representation is the one that helps students understand math(s). The power of multiple screens is in the palm of your hand with the right tools. We will explore how geometry, statistics, and algebra can come alive through linking these concepts in an interactive environment."
The Beauty and Mechanics of Standards-Based Grading within a Traditional-Grading Model	"In the session, we will share how you can incorporate a standards-based grading model within a traditional-grading model. We will discuss how students self-report and track their grades, as well as use their grades to reflect and act upon given feedback."
#CloneMe!	"Have you ever stressed wondering if the material you left for the sub is being taught correctly? Come see multiple ways to implement videos into your instruction. Be sure to bring your Apple/Android tablet for some collaborative brainstorming and the creation of sample videos. The ShowMe App is an innovative app that can be used for a plethora of activity types within your classroom (i.e. flipped classrooms, intervention, substitute days, and centers/stations)."
Data-Driven Math Instruction	"Apply the best practices of a former NASA system engineer to the design of effective and research-based learning experiences for students. Encounter a systematic approach to incorporating vertical alignment, establishing teacher and student clarity, analyzing student work, and integrating high-yield instructional strategies into every unit of study. Participants will learn the four critical components of an effective data driven instructional system, engage in sample activities that demonstrate the connections between systematic instructional planning and lesson delivery, hear testimonials about improved job satisfaction and teacher morale as a result of systematic instructional leadership, and leave with practical next steps that can be immediately applied to their unique educational environment."

Modeling and Solving Equations—Vertical Alignment	Come find out how math in the elementary years sets the foundation for modeling and solving equations in the middle and high school grades. Leave with resources and many ideas for engaging lessons and activities!
Pedagogy and Paper Folding	Origami is the art of paper folding to construct a sculpture from a square. This art usually results in the paper having many shapes and patterns which we intend to use to explain mathematical concepts. We will go over TEKS from the primary level and use origami as a manipulative to teach them.
Teaching Middle and High School Students to Speak the Language of Math (Part One)	Back by popular demand! After the overwhelming participation at CAMT 2017, come join part one of this two-part series about teaching kids to speak the language of math! Although it can seem daunting, both middle and high school students can learn to participate in meaningful discussion when they have the instructional support they need. In this session, come see "math talk" in real classrooms and explore a set of principles that provide support for young mathematicians as they learn to articulate their own ideas, consider the perspectives of peers, and construct mathematical understandings.
Online Resources that Promote Higher-Level Thinking	"There are many online resources available to us as educators. Due to the vast number of these, it can be overwhelming to know where to start and which resources are best for you in your classroom. Through time and reflection, we have curated many resources that promote what we believe is the most essential component in a classroom—students engaged in higher-level thinking. In this session, participants will rotate through stations that model these teaching strategies and activities from our curated list. Participants will leave with our list and descriptions, as well as having experienced a number of the resources themselves."

Extended Sessions, Monday 12:30 PM - 2:30 PM

Feedback That Feeds Forward	Feedback is only effective if it is a catalyst for change in student learning. Effective feedback is timely, descriptive, and specific to both the work and the student's needs. In effective feedback episodes, both the teacher and student learn something. Effective feedback is coupled with immediate opportunities for students to use it. Participants in this session will analyze examples of feedback and learn feedback strategies that help students answer the question, "Where am I now, and what do I do next?" Participants in this session will: -- Look at feedback through three lenses -- Learn to provide effective feedback messages to students -- Learn to create opportunities for students to use feedback and improve.
In-RIGOR-ating Math Notebooks through Differentiation	Different strategies can be used to teach content and some of these same strategies can be changed and used by students as products to show their mastery of content. In math, products include writing a testable question or solving a real-world problem; however, there are other quick project formats that can be used to strengthen and/or assess content knowledge while communicating crosscutting concepts. Some of these quick project formats include: • Plan and conduct a survey. Analyze and communicate data collected. • Make a model and use it to present a short lesson with a clear purpose. • Outline the pros and cons of a local, national, or world math event or legislative action, e.g., Daylight Savings Time. In this new session, Dinah will share her thinking and strategies about generating rigor in interactive student notebooks, with a focus on differentiation. You'll see and hear ways to differentiate math content while creating samples to take away with you and adapt. All materials provided

Monday, 1:00 PM - 2:00 PM

Conceptualizing Polynomials	"Are you spending too many weeks on factoring? Are you frustrated that students go outside to look for roots? Go beyond procedures to conceptualize how data, equations, roots, and factoring connect together as one mathematical reality that will empower all students."
Factoring Made Easy	"Factoring polynomials can be a downer. Come learn some fun methods, tricks, and tips to help teach your algebra students how to factor and make it stick."

First 5 Days	"It's no secret that today's learners don't know how to do research properly. Worse, they don't know how poor their skills actually are. Also, today's learners are unfamiliar with the concepts of perception, compassion, and empathy— skills that college professors and employers alike find lacking in new students and employees. In this presentation, you will learn how to set aside the first five days of the school year to teach all of these skills to students, and consequently, improve the atmosphere of your classroom for the entire year."
Formative Assessment to Enhance Student Learning	Formative assessments are a powerful tool to engage students and check for understanding. If you are new to teaching, or new to formative assessments, come learn easy and effective strategies to implement in your classroom. We will cover green card red card, four corners, ticket challenges, think-pair-share, quick writes, closure and more. You will leave with ready-to-use grades 6-12 formative assessments! Door prizes at the end!
Mistakes Are Proof That You Are Trying for Grades 6-12	"This presentation will explore the importance of creating a culture in the secondary math classroom to emphasize the importance of error analysis. We will utilize strategies and practices that allow students to work together in order to learn and retain mathematics at a deeper level and in a safe environment. These strategies will address the shared responsibility of both the student and the teacher in the successful creation of a culture that values mistakes by emphasizing the importance of discussion, respect, self-monitoring, and student engagement."
STEM and Math in Motion with the TI-Innovator Rover (TI)	We will introduce the TI-Innovator™ Rover robotic vehicle. This overview session will show how TI Basic coding can be used with the Rover to explore the relationship between distance, rate and time; illustrate an intersection point of two lines in real-time motion; and explore design and measurement activities. Let the Rover convert students' curiosity and creativity into understanding. No coding will be required in this session. When the wheels are turning, students are learning. See you there.
Mathematics Mastery Strategies	"Do you teach high-school students with serious math deficiencies? Then this session is for you! We will give you strategies and systems to promote mastery of your course, allowing students to fill in their gaps. We have implemented these strategies in our classrooms and want to share what we've learned. You will leave this session with a new outlook, materials, and strategies you can take back to your classroom to use immediately—any level from Algebra 1 to Calculus—and door prizes!"
Questions, Making Them Purposeful	"As teachers, we are constantly asking questions of our students. NCTM's ""Principles to Actions"" encourages teachers to pose questions that advance students' reasoning and sense-making of mathematical ideas and relationships. Participants will engage in activities to reflect on questioning patterns and use a variety of question types to access student thinking, reasoning, and understanding of mathematics."
Where's the Feedback?	"There are many ways that we can provide feedback to our students. However, there are some ways that are more efficient and effective than others. Over the years, I have tried many different types and I have arrived at some that work for me and the students that are efficient and effective. We will also look at how feedback affects the students' attitudes towards assignments and the class in general. What about feedback about our teaching and instruction? How are we getting feedback from our students to help us improve our instruction? We will look at simple ways to get students to tell us what they like and don't like, and how we can adjust. Come on by and feel free to share your experiences and learn from others."
Convergence: How a Collaborative, Inquiry-Based Classroom Earns Top Marks on Any Rubric	"The number of research-based best-practices rubrics (including T-TESS) can make your head spin. Living up to all of those expectations isn't as difficult as it seems. As a mathematics educator, I will provide some clarity by ""working a simpler problem."" By tapping into students' natural inclination for collaboration and curiosity, teachers can transform classrooms into highly engaging work spaces. In this session, I will explain how all the research lines up and give practical steps to get you started. Bring an existing lesson plan to transform. Ideal for beginning (or just frustrated) teachers!"

Grit in Mathematics: Designing Lessons to Cultivate Passion and Perseverance	"Grit is the combination of passion and perseverance. Passion builds from interest and curiosity, which should be at the heart of our curriculum. Perseverance, the ability to face and overcome challenges, has to be cultivated through purposeful practice. Participants will learn practical ways to infuse their mathematics courses with passion and perseverance in an effort to generate a culture of gritty and inspired students."
Strategy-Based Instruction for Addition and Subtraction Facts	"Educators will learn effective and efficient strategies to help students achieve mastery of the basic addition and subtraction facts. The Texas Essential Knowledge and Skills (TEKS) require students to use strategies when solving problems, including when learning the basic math facts. The National Council of Teachers of Mathematics (NCTM) considers fluency with numbers and operations an essential skill for algebra readiness. Furthermore, strategy-based instruction for basic math facts builds flexible thinking and mathematical reasoning in all of our students, which in turn, increases students' procedural fluency."
Number Line: Math Teacher's Swiss Army Knife	"The Number Line is the only tool mentioned in every grade of the TEKS (1-8). See why it is so important, and how it bridges concepts across grades. Learn to use the number line to teach whole numbers, fractions, addition, subtraction, multiplication, division, decimals, integers, and so much more."

Monday, 2:30 PM - 3:30 PM

Completing the Square Using Algebra Tiles—RUSMP	"Participants will use algebra tiles to write quadratics in the vertex form. They will compare, using the tiles to complete the square algebraically. Participants will then discuss with their partners and demonstrate their work."
Getting It Straight—Linear Approximation in Calculus	"The tangent line acts as a local linear approximation for a function. During a first course in calculus, students are expected to leverage the derivative to linearly approximate differentiable functions using the tangent line. This key idea is at a natural conjunction of many different activities: mental math, number sense, estimation, modeling, real-world problem-solving, investigating properties of roots and logarithms, studying inverse functions, and much more. We will explore fun, engaging, and informative ways to learn and master linear approximation, with resources including visualization in Desmos."
How to Help Struggling AP Calculus Students	What can you do for those students who struggle with AP Calculus because of a lack of background? I will share with you some of the acronyms and strategies I have developed to assist the students in tackling the difficult coursework. Are you up to the challenge to learn some new teaching techniques to help your students who do not see calculus as you do?
Teaching High School Statistics with the TI 84 Plus CE Graphing Calculator (TI)	During this hands-on session, attendees will use the TI-84 Plus CE to explore several activities for teaching Statistics in the high school classroom. The session will focus on a variety of topics from graphical displays, to sampling distributions and inference. We will explore a variety of features that enhance student understanding of relevant high-school statistics topics. If you have any version of the TI-84 Plus graphing calculator you can still use these materials.
The Bayou City: STEM Applications Through Real-Life Connections	In this session, attendees will apply algebraic concepts to explore Houston's drainage system, and how development of the region and its high-risk location has an impact on our lives. While relating urban development, rainfall and run-off, compound inequalities and absolute values, participants will see how STEM can be used to tackle civil engineering and meteorological challenges, and how inquiry-based, student-centered learning can be an engaging alternative to traditional teaching methods.
Transformations in Algebra 2 with the TI-Nspire™ CX Technology (TI)	During this hands-on session, attendees will use the TI-Nspire CX to explore a variety of algebraic concepts involving transformations used in Algebra II. The session will feature many unique and dynamic TI-Nspire CX features. The TI-Nspire CX Navigator System will also be used for instruction and data collection.
Nspiring Innovation with Coding	Did you know that you can code on the TI Nspire, or use your handheld to program a robotic vehicle? Come see the applications of mathematics in coding. This session is for beginners and intermediate coders. We will write code on the TI Nspire and discuss ways to inspire students to be creative in the mathematics classroom.

#GotFactoring	Factoring is one of those topics that always seems to cause problems in an Algebra I class. I will be presenting how I normally approach teaching factoring. You will see a demonstration of the bottoms-up and tic-tac-toe methods of factoring a trinomial with a coefficient greater than one.
Transform Your Life Using Student Engagement and Creativity	"Based on the book ""Teach Like A Pirate"" and with a proper definition of rigor, attendees will learn how to use strategies to meet modern demands. Come see how to incorporate truly meaningful writing, group and individual collaboration, and critical thinking into your lessons.. All the while, you will become a true facilitator, and your students will effectively glean their education."
Precalculus Workstations	"How can we make Precalculus more student-centered?(T-TESS Anyone?) Math workstations is one answer. Students work alone, in pairs, and in groups to cement their understanding of important skills and concepts, while the teacher facilitates their learning. This can be accomplished through foldables, games, and technology. Participants will leave with both an understanding of the structure and access to many pre-made workstations coded to the TEKS strands for Precalculus."
Teaching Geometry with Low-Cost Garage Sale Games and Toys	"I teach Geometry with garage-sale games, LP record, dishes, and toys that were bought for 50 cents or less. Clue boards teach Pythagorean Theorem, area, perimeter and probability. Battleship provides practice on graphing points. LP records become the worksheet for teaching property of circles like central and inscribed angles, diameter, and radius. We will model finding a broken plate's diameter using chords. We will see how domino's teach scale change, These, and others, will be demonstrated."
Making 'Boring' Fun!	"In math, it is so important that students practice the fundamentals. Often, we need them to complete problems for practice to show this. Why not make the boring practice fun? In this session, we'll show how to take a regular worksheet, or set of necessary practice problems and make it a fun scavenger hunt or warm-up that allows for instant feedback and assessment. Ready-made activities for slope, quadratics, and inequalities will be provided as well as electronic templates."
Five Ways to Enrich Multiple-Choice Questions in Mathematics	"Surprisingly, research finds multiple-choice questions can be a valuable learning experience! But can instruction with STAAR multiple-choice questions also be a rich learning experience? Learn five strategies to differentiate instruction with multiple-choice questions. Each strategy is illustrated using released STAAR test items, because students benefit from instruction and practice in the format of the STAAR test."
Growth Mindset Meetup	Network and learn with educators who are interested in, or excited about, applying growth-mindset strategies in education. This highly interactive gathering will start with a basic discussion of emerging trends in the field, and then focus on practical application of growth-mindset strategies in classrooms, faculty teams, and more. Bring your ideas and questions! We provide a structure for participation and conversation. Participants will be encouraged to add their own stories and wonderings to the discussion. Leave with inspiration, fresh ideas and new collaborators. Optional: bring contact information or business cards to share.
NCSM—Math Leadership Resources	"NCSM is a national organization supporting math education leaders at the campus, district, regional, and university levels. Come find out more about NCSM resources that you can use as you support math teachers in your work. Resources include three-act tasks, coaching strategies, and formative assessment techniques."
Simple Centers, Seriously?	"Preparation, classroom management, differentiation can all make using centers a challenge. Come learn new strategies and share ideas to make center learning meaningful for students and realistic for the teacher. See new tools from ETAhand2mind to engage your students. Get free manipulatives that you can start using in class right away."
TEA Update for Elementary Mathematics	This session will present the most current information regarding kindergarten – grade 5 mathematics education. Critical issues such as instructional resources, ESTAR/MSTAR initiatives, Texas Gateway, state and federal requirements, PAEMST, and STAAR will be discussed. Attendees will be given the opportunity to ask questions.

Supporting the Newcomer in the Mathematics Classroom	Do you have students who are new to the United States? Join us as we discuss ways to create a safe and successful learning environment for students who are learning English. Explore ways to incorporate research-based strategies that help students acquire language and make math more accessible.
Ed Camp for Math Instructional Coaches	"Ed camps are participant-driven professional learning. In this session, math instructional coaches will gather together to discuss topics such as, how to help the struggling teacher, how to support teachers who have more years experience than you, how to use data to impact instruction, how to enroll teachers in coaching cycles, and anything you would like to ask other coaches about."
Lights! Camera! Principles to Action!	"In Principles to Actions, NCTM set forth a set of research-based actions for all teachers, coaches, and specialists in mathematics; all school and district administrators; and all educational leaders and policy makers. These recommendations are based on the Council's core principles. We have developed Innovation Configuration (IC) maps to provide clear pictures of what an ideal state would look like in each of these principles and descriptions. In this session, we will explore the IC map developed for ""Using and Connecting Mathematical Representations."""

Extended Sessions, Monday, 3:00 - 5:00 PM

Becoming Fluent in Developing Procedural Fluency	Principles to Actions (NCTM, 2014) describes eight effective teaching practices that support student mathematical learning. We will zoom in on one of these: "Build procedural fluency from conceptual understanding," and see how we can build such fluency into our teaching practices. Specifically, we will explore 5 big ideas and 5 research-based instructional strategies that improve students' procedural fluency (and conceptual understanding).
Integrating STEM Learning Through Mathematics, Modeling, and More	All students need more STEM knowledge than ever, starting with quantitative reasoning and scientific thinking. And many students need to be prepared for STEM careers. K-12 mathematical modeling offers a rich opportunity to integrate math and STEM. Let's help every student learn to think, reason, and solve rich problems in math, STEM, and more.

Monday, 4:00 PM - 5:00 PM

Cooperative Learning Review	"Getting students to collaborate can range from easy to very difficult depending on class demographics. The Cooperative Learning Review (CLR) process has been field-tested and success-proven for math. However, it requires a thorough understanding and careful use to make the magic work. We will provide that for you, along with a step-by-step PowerPoint presentation. Come see how to get your students to maximize learning when doing exercises, test corrections, etc."
Dare to Dive Into Data—RUSMP	Dive into data analysis by engaging in activities providing opportunities to collect, organize, represent, and interpret sets of data. Attendees will participate in hands-on activities with manipulatives and create foldables that promote understanding of displaying and summarizing numerical data, including identifying measures of center and variability. Classroom-ready activities will be provided.
QUADzilla Makeover	"Introduce students to the basics of programming—a critical skill for 21st century careers—using Texas Instrument handheld calculators (TI-84s or TI-nspires). Explore simple programs that connect math concepts with the basics of coding. The session will be geared towards beginners, but those with coding experience are welcome as well!"
Making Assignments and Assessments "Cheat Proof"	"Are you tired of watching your students like a hawk just to make sure they don't cheat? Do you wish you could have separate work for each student, but just don't have the time? If you have a working knowledge of Microsoft Word and Excel, you're already halfway to solving your problem. In this presentation, you will learn how to create as many individual assignments and assessments as you need, without having to make a key for each one. You won't even worry when students talk during the assignment, because they will be sharing ideas about the processes, not the answers."

Connecting with Polar Curves	Polar graphs can present quite a conundrum for students as they try to connect many different concepts and representations. We will explore methods for helping students make connections between their past knowledge and the new concepts of polar curves with visual representations. We will utilize the TI-Nspire CX CAS to create dynamic links between the Cartesian and Polar coordinate systems. We will also investigate the slope and area of polar curves in relationship to their Cartesian counterparts.
How Are You Meeting the Needs of Your GT Math Students?	"Often, at the secondary level, our GT students are served through our Honors, Pre-AP/IB and AP/IB courses. In this session, we'll explore ways to differentiate for the needs of our mathematically-gifted students without creating a lot more work for them, or for us."
Algebra 2— No More Worksheets!	Come hear how we completely changed our Algebra 2 classes to incorporate a daily activity, group quizzes, no homework and no more worksheets! As an update to last year's session, this year, we will share a different unit and related files with you. Strategies and activities can be incorporated in all secondary math classes.
Coding with the TI-Innovator Hub and TI-Nspire CX	Participants will be introduced to the basics of coding and build their understanding of math concepts, programming logic, and coding skills using the TI-Nspire CX technology to control the TI-Innovator Hub. Applications from the 10 Minutes of Code with the TI-Innovator Hub will be explored, including simulating a traffic light and creating computer-generated music. No coding experience is required.
Simple Centers, Seriously?	"Preparation, classroom management, differentiation can all make using centers a challenge. Come learn new strategies and share ideas to make center learning meaningful for students and realistic for the teacher. See new tools from ETAhand2mind to engage your students. Get free manipulatives that you can start using in class right away."
Data-Driven Math Instruction	"Apply the best practices of a former NASA system engineer to the design of effective and research-based learning experiences for students. Encounter a systematic approach to incorporating vertical alignment, establishing teacher and student clarity, analyzing student work, and integrating high-yield instructional strategies into every unit of study. Participants will learn the four critical components of an effective data driven instructional system, engage in sample activities that demonstrate the connections between systematic instructional planning and lesson delivery, hear testimonials about improved job satisfaction and teacher morale as a result of systematic instructional leadership, and leave with practical next steps that can be immediately applied to their unique educational environment."
Learning Targets - Helping Students Aim for Understanding	"The first thing students need to learn is what it is that they are supposed to be learning. Sharing learning targets and criteria for success is the fundamental formative assessment method, upon which all the others depend. Learning targets are often characterized as simply instructional objectives in student-friendly language. This is not true! A learning target is only a target if students are aiming for it, and a learning target is tied to what students actually do in an individual lesson. Participants in this session will discover strategies for helping students answer the question "What am I supposed to be learning?" Participants will learn to: -- View a learning target from the student's point of view -- Make learning targets ""live"" in a lesson -- Use success criteria (student look-fors) to develop assessment-capable students"
Strike 1, Yerrrrr Out!	"Repeated warnings in a mathematics classroom do nothing more than empower students to push a teacher to their breaking point. The power in the classroom shifts as teachers lose control. Teachers are frustrated, everyone loses, and precious instructional time is lost. Learn how to get that time back! Introduce a new approach to discipline in your mathematics classroom that teaches your students to recognize their own behavior problems once they lose focus. The result is a happier classroom with increased math achievement! Stop writing referrals, drop bad behavior, and roll on with instruction!"

Naming Problems—A Strategy for Solving STAAR Math Test Items	"Naming problems helps students read STAAR word problems actively by giving them a concrete task: to identify what is given and what is asked for. Naming can help students see a problem's larger structure, and help them move forward in solving it. Using released STAAR test questions, we will model this problem-solving strategy and show ways you can apply it in your classroom."
Conceptualizing Multiplication	"Multiplication is traditionally taught as a series of procedures that students follow. By shifting the focus in mathematics from procedural to conceptual understanding, learners are able to reason mathematically, allowing flexibility and creativity in the way they approach multiplication. Join us as we critically explore the concept of multiplication by looking at transferable big ideas that underlie this concept. Knowing these big ideas will allow learners to multiply with all number forms, including algebraic expressions, in ways that are deeply rooted in the concept of multiplication itself and bring true understanding to what is typically viewed as a collection of various procedures to be memorized."

Opening Sessions, Tuesday, 8:00 AM - 9:30 AM

Math and Democracy	Should the government increase the minimum wage? How have global temperatures changed over time? How much should health insurance cost, and who should buy it? As a country, we seem increasingly unable to discuss issues that matter. Instead of engaging with one another thoughtfully and respectfully, we rely on partisan news to reaffirm our beliefs and social media to retreat deeper into ideological silos. Fortunately, math teachers can help. Mathematics is the language of logic and reason, and math class is a place where students can discuss the most important topics facing society. In this presentation, we'll use math to explore one such topic...and from a variety of perspectives. With civics no longer taught in many schools, it's up to math teachers to help students become the thoughtful, analytical citizens our democracy depends on.
Six Spheres of Influence for Mathematics Teaching and Learning	When teachers are instructional leaders in their schools there are positive outcomes. Effective leaders of mathematics teaching must know what to promote in instruction. Effective leaders must be "critical consumers" of the structures and practices imposed on teaching practices to prevent the support of requirements that could inhibit student achievement in mathematics. This is best accomplished by understanding leaders' six spheres of influence in mathematics teaching and learning. Dr. Juli Dixon models best practices as she shares these six spheres through the exploration of mathematical tasks and how to plan for them as well as through the use of authentic classroom video. Objectives: - Make sense of six spheres of influence to support students to engage in rigorous mathematics standards, - Explore productive strategies to increase student achievement in mathematics, and - Create a shared image of best practices in mathematics teaching.

Extended Sessions, Tuesday, 10:00 AM - 12:00 PM

Who thinks, learns! The top 5 strategies used to engage HS students in critical thinking.	"Critical thinking with high school students is possible! By experiencing rich open tasks, we shall explore several strategies that develop the intellectual engagement of our students thru productive struggling. Together we shall create our list of top 5 strategies and implement them in our classrooms next week thru the rich tasks that we experienced!"
Planning and Facilitating Problem Strings	How do you plan to facilitate powerful instructional routines? What are the important teacher moves in making the lesson format of Problem Strings work well? A Problem String is a powerful lesson structure where all students learn, have access to the problems, and are challenged. The success hinges on the teacher's purposeful question order, class discussion, and modeling student strategies to build connections. In this extended session, we will unpack the planning process so you can learn to facilitate strings in your classroom. You will participate in rehearsals, where the teacher makes important teaching moves explicit as the problem string plays out. Want to get your students really thinking and mathematizing? Come join us!

Feeding Your Inner Mathematician through Math Teachers' Circles	Counting the number of ways to decompose a number into sums is an accessible but challenging puzzle. In this general interest session (particularly geared for elementary teachers), we will "feed our inner mathematicians" by exploring various ways to represent sums and the patterns that emerge from them, and see how changing our point of view can help us get started on a novel problem! Through investigating this problem, we will also introduce the format of a Math Teachers' Circle (MTC). MTCs are communities of K-12 teachers and higher-education professors who meet regularly to investigate mathematics together. A growing body of research suggests that MTC participation increases mathematical knowledge for teaching, supports healthy teacher mindsets, contributes to greater professional engagement, and increases the use of high-leverage classroom practices that promote student learning. Based at the American Institute of Mathematics, a research institute supported by the National Science Foundation, the MTC Network provides centralized mathematical, organizational, and mentoring resources for a growing national community of MTCs.
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Tuesday, 10:00 AM - 11:00 AM

Coding with the TI-Innovator Hub and TI-84 Plus CE	Participants will be introduced to the basics of coding and build their understanding of math concepts, programming logic, and coding skills using the TI-84 Plus CE technology to control the TI-Innovator Hub. Applications from the 10 Minutes of Code with the TI-Innovator Hub will be explored, including simulating a traffic light and creating computer-generated music. No coding experience is required.
Party of Four Please—Differentiation At Its Best!	"In this session, participants will experience the restaurant classroom. For this instructional model, teachers learn to play the role of the host/facilitator, students are given choice in their learning experiences, and differentiation is maximized. This presentation gives participants the opportunity to discuss how the restaurant strategy could be used to enhance their classroom learning experiences."
STEM: Coding and Programming with the TI-Innovator System (TI)	Introduce students to the basics of coding and build their understanding of math concepts, programming logic and coding skills using the TI-Nspire™ CX technology to control the TI-Innovator™ Hub. Learn the basics of coding and see how coding can be used to program and build working solutions, and connect STEM concepts. Coding lessons and activities are available at www.education.ti.com/ticodes .
OnRamps College Before College	"Learn how you can help your students earn college credit through UT Austin or Texas Tech, as well as help your school improve their state rating. The On-Ramps programs will do just that. We will present our 2-years teaching On-Ramps Precalculus and Statistics, including the training needed, the benefits, and how our program has grown. UT Austin will join us as guest speakers to answer any further questions. You don't want to miss it!"
Polar, Parametric, Rectangular—Can You See The Connection?	"Making connections between Polar, Parametric, and Rectangular Equations can be challenging when only using paper and pencil as your tools. In this session, participants explore equations by completing engaging activities using manipulatives, calculators, and video clips that prepare students for concepts found in precalculus, calculus, and physics courses. Hands-on activities and projects will be shared!"
Hypothesis Tests in the Old West	"Using the theme of the Wild West, we illustrate a way to explore hypothesis testing through the use of video and classroom participation. The students will evaluate the claims of a snake oil salesman, mediate when gamblers accuse each other of cheating, and determine if a black-hatted stranger has supplanted Mild Will Hiccup as the fastest (squirt) gun in the West."
Making Functions Active and Interesting	"Participants will engage in activities designed to develop a rich understanding of a relation and function for their students. By investigating various functions, teachers can help students explore the similarities and differences of a wide range of functions, from linear to exponential. Teachers will receive ideas, strategies, and materials that they can use in their own algebra classrooms."
Connecting Mathematics and Coding—TI Codes Ten Minutes a Week—RUSMP	"Introduce students to the basics of programming—a critical skill for 21st century careers—using Texas Instrument handheld calculators (TI-84s or TI-nspires). Explore simple programs that connect math concepts with the basics of coding. The session will be geared towards beginners, but those with coding experience are welcome as well!"

Essentials for Differentiation in a Secondary Math Classroom	"Participants will review characteristics of the gifted math student. Examine the six essentials for differentiating secondary math instruction for the advanced math student. Explore specific examples of pre-assessment, flexible grouping, higher level thinking and increasing depth and complexity with math content."
Deeper Learning Strategies— Improving Retention of Knowledge	Students often struggle in mathematics on a cumulative, end-of-course test when they learn concepts for short term only— to pass the test. Deeper learning is necessary in mathematics, and this is best accomplished when the mathematics is challenging and the students are interested and engaged. Classroom-tested activities will help teachers understand how to instill a better attitude toward learning mathematics in their classrooms. Although this is a presentation, there will be numerous opportunities for interaction by attendees.
A Hands-On Activity to Discover What Derivatives and Integrals Physically Represent	"Participants will use a hands-on activity to determine a quadratic model. They will then use multiple representations (physical, algebra, and technology) to develop the concepts of derivatives and integrals. In this workshop, participants will use a hands-on activity to determine a quadratic model. They will then use multiple representations (physical, algebra, and technology) to develop the concepts of derivatives and integrals and confirm if their answers for each method are nearly the same."
Anticipation Guides in Mathematics	"Let's leverage what we know about high-quality literacy instruction by utilizing anticipation guides for mathematics. As pre- and post-assessments, these tools can facilitate access to prior learning, promote discourse, and foster a growth mindset with students in K-12. Careful questioning can open the door to responses from all students and the use of images and reduced text can remove barriers so they may access the content. I will share examples of anticipation guides and provide access to these tools digitally as well."
Connect 4: Considering Connections for the Progression of Mathematical Ideas from Grade to Grade	"The Connect 4 planning process aids educators in distinguishing between enduring concepts and procedural computations—the latter often replacing deep mathematical learning. Often in mathematics, big, universal, mathematical ideas are segmented into bite-sized pieces, never allowing students to make connections back to previous learning. In this session, participants will explore one of the Connect 4 connections. Participants will take a deeper look at the vertical connection by engaging in a sample math concept and the connections that create a coherent mathematical idea and leave equipped to replicate the process with other mathematical ideas."
Fold with Focus: First Steps and Decisions with Foldables®	"Do you wonder where to begin implementing Dinah Zike's Foldables® in your classroom? Do you leave a Foldable session motivated and inspired, then find yourself overwhelmed at the prospect of using this highly-effective strategy with students? This session is for you! Clear hurdles to implementation in this highly engaging and interactive presentation. Leave ready to address TEKS standards, vocabulary, and more—find your focus with Foldables®!"
Two Pedagogy Game Changers: Spaced Repetition and Accelerated Math-Fact Mastery	"The session discusses two symbiotic pedagogical methods to accelerate students 'back to grade level' and increase the instructional efficacy classroom teachers for grades 1-8. The presentation highlights a differentiated spaced repetition system that affords instructional flexibility in conjunction with a differentiated numeracy system, an existing paper-based warm-up system and a rapid mastery of grade level math process skills. The presentation will also focus on accelerated math fact mastery in conjunction with daily numeracy and teacher-focused spaced repetition for all four math fact operations. The success of these instructional techniques have produced two (2) National Blue Ribbon Schools. Both urban Title 1 elementary schools were also selected and featured as "Profiled School for Academic Excellence" on the United States Department of Education Blue Ribbon website."
We Like to Party! And by Party We Mean Teach Math!	Come see how much fun teaching math can be! Learn mathematical card tricks, dice tricks, number tricks. Re-spark your enthusiasm to teach math knowing that enthusiasm is contagious and your students will be loving your class! There is a free deck of cards to all participants.

Wild 'n' Wacky Workstations (K-5)	"During this hands-on and engaging session, teachers will learn how to incorporate TEKS-based workstations related to number relationships, number operations, and algebraic reasoning to increase student engagement. These workstations incorporate higher-level thinking skills, problem solving, student accountability, and are just plain fun! Activities utilize materials that are low to no cost, so start collecting! Participants will walk away with a QR code and links to plentiful workstation games and activities."
I Hate Math... When Did This Happen?	"As students progress from elementary through to high school, it seems that many of them lose their zest for learning mathematics and problem solving. When does this change in attitude occur and why? This study investigates the math attitude of 5th and 6th grade students and quantitatively compares multi-year and multi-district data. Also, qualitative data is used to pinpoint some causes of this change in attitude."

Tuesday, 11:30 AM - 12:30 PM

A Tale of Two Functions: Exploring Cubic Functions—RUSMP	"Participants will explore two interesting cubic functions using paper folding, rainbow cubes, and graphing technology. They will first build the functions, then express them symbolically. The characteristics that make the functions cubic will be explored. Participants will discuss the pedagogical implications for including such activities in their repertoire of lessons."
Linear Programming, Conics, and Parent Functions	"Algebra 2 teachers and higher, come see how color-graphing technology can help your students dig into the concepts without becoming overwhelmed. Explore how your students can deepen their understanding of some really fun topics that support TEKS!"
Recovering from Death by Data	"Do you feel that by digging into data, you are being buried alive? Do you feel that when you are drilling down data, the drill bit breaks and goes flying off on a random and dangerous path? Data discussions have been around for decades. Join us as we show you how to monitor your vitals with tools and structures that will defy the death by data diagnosis."
These Are a Few of My Favorite Things	"I can't sing like Julie Andrews in ""The Sound of Music"", but I will share some of my favorite ideas and tips from my 40 years of teaching. These are adapted from previous CAMT sessions, best practices from coworkers, and weird things I have dreamed up. I will also include what I have learned as a substitute teacher to help you better prepare for when you must be absent. We will do hand motions, sing, and even dance a little as we learn ways to help students learn. I will also talk about some organizational steps that would be especially beneficial to beginning teachers. We will have lots of fun and laughter!"
NASA and TI—Great Resources for Instruction (TI)	This hands-on session will feature activities from the "NASA and TI", "STEM Behind NASA", "Mission Imagination" and "Search for STEMnauts" programs from TI. The activities used in the session are a part of a series of problems that apply math and science principles to human space exploration at NASA. The materials cover a wide range of math and science topics from middle school to AP Calculus. Let's inspire the next generation of explorers and innovators together.
Algebra In the High-School Geometry Classroom	Experience activities that will use the properties and attributes of triangles and quadrilaterals to determine missing measurements in various sketches.
Maximizing Area and Volume	We will maximize the area of a rectangle with a fixed perimeter as well as find the maximum volume of a box, folded from an ordinary piece of paper, and make connections to algebraic functions.
Transform Your Life Using Student Engagement and Creativity	"Based on the book ""Teach Like A Pirate"" and with a proper definition of rigor, attendees will learn how to use strategies to meet modern demands. Come see how to incorporate truly meaningful writing, group and individual collaboration, and critical thinking into your lessons.. All the while, you will become a true facilitator, and your students will effectively glean their education."

The HB 5 College Prep Math Course—Challenges and Opportunities	"As colleges continue to implement mathematics requirements that better align with students' careers, College Algebra may no longer be the default entry-level mathematics course. Instead, depending on their majors, students may be required to complete courses in quantitative reasoning or statistics. Additionally, research indicates that academic skills are not sufficient to prepare students for college; rather, building college readiness requires us to also address certain "noncognitive" knowledge and skills, as well as expose students to college norms and expectations. For the past two years, the Dana Center has been collaborating with a number of Texas districts and their higher-education partners to implement a HB 5 College Prep course that supports multiple pathways to college mathematics and also addresses crucial non-academic knowledge and skills. In this session, we will share an overview of the course materials as well as emerging findings from its implementation."
TEA Update for High School Mathematics	This session will present the most current information regarding high school mathematics education. Critical issues such as graduation requirements, instructional resources, Texas Gateway, state and federal requirements, PAEMST, and STAAR will be discussed. Attendees will be given the opportunity to ask questions.
Developing the Whole Teacher Using Social Networks	"Like students, teachers have social and emotional learning (SEL) needs that are key to their development. School and districts have begun work around student SEL, but little has been done to look at teachers' SEL needs within professional development. This session will examine just how important these needs are for teachers, as well as ways social media can provide support. Let's use the full potential of social networks to develop and change teaching practices for greater student achievement!"
Innovatively Teaching Solving Equations Through Real-Life Applications	"Technological advances are making traditional procedural focused worksheets antiquated. In addition, these traditional worksheets do not effectively engage students nor build their authentic problem-solving skills. In this workshop, participants will learn how to transform the concept of 'solving equations' into fun hands-on activities, real-life application scenarios, and collaborative projects that will help students formulate a profound insight and conceptual understanding of solving equations. Participants will be provided with tools and resources that can immediately be utilized in their respective classrooms."
It's All About Culture	As rigor increases in the classroom, student engagement becomes critically important. This session will introduce activities that involve students in the learning process. From the very first day, students will begin to take responsibility for their own learning and accept the challenge of independent thought, even when collaborating. This fosters a culture of teachers and students learning from one another in an environment of active engagement.
Next Steps on TI-Nspire CX for Intermediate Users	Have you started using TI-Nspire, but know you could be doing so much more? During this hands-on session, attendees will use the TI-Nspire™ CX to explore a variety of 6–12 grade concepts to support instruction of the TEKS. The session will also focus on many TI-Nspire features including multiple and linked representations of data to dive deeper into mathematical thinking. The TI-Nspire™ CX Navigator System will also be used for instruction.
Integrate Problem Solving, STEAM Connections, and Formative Assessment	"Evidence has consistently indicated that traditional mathematics curriculum and instructional methods are not serving students well and fail to prepare them for an accredited undergraduate STEM degree program and high-paying STEM-related careers. Instead, students face barriers that impede engagement and motivation in mathematics education, including learning anxiety. Come see how integrating math topics, using relevant, worthwhile problems, real-world STEAM connections, and authentic assessments used in the classroom on a regular basis help develop mathematically proficient students who have a positive disposition towards math."
Tips and Tricks on the TI-84 and TI-84CE(color) for Grades 7-12	For new and experienced users, learn several creative ideas to utilize the TI-84 and TI-84CE (color), much more effectively, develop conceptual understanding, use the 84 as an evaluator of complex expressions easily, trace on a graph and table simultaneously, use color photos to teach transformation graphing, and much more. See how to fully utilize the TI-SmartView graphing-calculator emulator.

Extended Sessions, Tuesday 12:30 PM - 2:30 PM

Engaging Tasks + Powerful Questions = Lesson Magic in the Form of +/- 8 Slide Lesson Guides	Most of us struggle to craft and implement effective mathematics lesson that live up to the high expectations of the 8 Mathematics Teaching Practices found in Principles to Actions. We'll explore a development process and some examples of +/- 8 slide lessons that have emerged from the process and that guide the planning and implementation of great lessons.
Helping students make up their minds: How to create better puzzle-solvers in & beyond mathematics	Here's a Puzzle: How can we joyfully and impactfully engage our students so that they will thrive in their math courses as well as in life? How can we inspire our students to appreciate the beauty and power of mathematical thinking? Here we will offer some practical strategies of thinking that will allow our students to not only make greater meaning of mathematics, but use those mindful practices beyond their math classes and for the rest of their lives. We will illustrate these thinking practices through some illustrative puzzles.

Tuesday, 1:00 PM - 2:00 PM

Barbie Bungee Drop from Algebra 1 to AP Stats	"Everybody's heard about it, but have you ever done this low-cost lab— Barbie Bungee Drop? Help build your program and prepare students for the AP Statistics exam or Algebra EOC by having students conjecture on how long the cord needs to be so Barbie can safely jump. They will determine the equation for the least-squares regression line ($\hat{y} = a + bx$) on the TI 84 calculator and compare it to their hand-drawn Line of Best Fit. The Algebra I teacher will have material they can use to ramp this down to Algebra I level. This is a great session for vertical and horizontal teaming."
Exploring Precalculus and AP Calculus Activities with the TI-Nspire™ CX (TI)	"In this session, participants will see how concepts from Precalculus and AP Calculus can be explored graphically, numerically, and analytically using TI-Nspire CX handheld technology. The TI-Nspire CX and TI-Nspire CX CAS units also come with companion Teacher software featuring a built-in TI SmartView emulator. The TI-Nspire CX handheld is acceptable for use on AP exams."
Modeling Data with Functions	"If the function connects all of the dots on the scatterplot, it must model the data, right? Or if R-squared is 0.99, then it's a good fit, right? Modeling data with functions is more than curve fitting. Let's investigate why some functions match a data set better than others. Leave with some classroom-ready lessons that you can use for functions in your Algebra 1, Algebraic Reasoning, or Algebra 2 course."
Making Mathematics Connections through Conic Section—RUSMP	"Learn how to make the study of conic sections fun and engaging for students. Through hands-on activities and the use of technology, explore how to use the conic sections to make connections among mathematics concepts in algebra, geometry, and trigonometry."
Developing Statistical Literacy in High-School Students	""Torture numbers, and they'll confess to anything."" Gregg Easterbrook Being statistically literate involves critical thinking and awareness, but more importantly, the ability to determine the truth behind the data. From middle to high school, students are required to demonstrate statistical reasoning. This session will provide the tools necessary to teach foundational statistics in an engaging and meaningful way."
Desmos—It's Got What Students Crave	Desmos is a free and easy graphing website that also has ready-made teacher lessons. We will be using Desmos in Teacher mode to present exciting lessons for students using technology. For use from remedial Algebra 1 and Pre-Ap Algebra 2
Preparing Calculators for Exams—What to Clear and How to Clear It!!!	his hands-on session will demonstrate a variety of ways to prepare your TI graphing calculators and handhelds for testing. Participants will learn how to manually clear calculators, discuss the TI Test Guard APP, and learn how to use the latest Press-to-Test functionality featured on the TI-84 Plus and the TI-Nspire CX. And remember; for TI-84 Plus users - 2nd, +, 7, 1, 2 or 7, 2, 2 - does NOT meet the current TEA Calculator Policy criteria.

Advanced Algebra With Financial Applications	"Learn ways to use financial applications and activities in a comprehensive, full-year Advanced Algebra course with only Algebra 1 as a prerequisite. The math will be explored in the contexts of discretionary expenses, banking, credit, auto ownership, employment, taxes, housing, investing, entrepreneurship, retirement, and budgeting. Handouts will be distributed. The session will present methods to introduce the finance, build strength in the mathematics, and assist in making that mathematics transferrable to other contexts. The co-presenters have been teaching financial mathematics courses since the beginning of their teaching careers. They have co-authored numerous journal articles on financial math topics and have presented at conferences from Maine to Hawaii."
Traversing Transversals with Technology	Are you looking for a fun and exciting way to explore angle relationships in your classroom? Are you ready to use technology to help make these necessary connections with your students? Come find an exploratory method for investigating angle properties and relationships using parallel lines cut by a transversal. We will identify corresponding angles, vertical angles, alternate interior/exterior angles, same side interior (consecutive) angles, and linear pairs. Using the TI-nspire software, we will facilitate the learning process for students in the classroom. This investigation can allow your students to use and connect mathematical representations and elicit evidence of their understanding.
The Beauty and Mechanics of Visible Learning in the Mathematics Classroom	In this session, we will share successful visible learning and teaching techniques used in our classrooms to improve student learning and achievement in mathematics.
A Launch Through the STAARs—TI-84 for Pedagogy and Assessment	Use the TI graphing calculator as a tool to connect conceptual understanding by connecting concepts to all their representations. Discover new ways to animate and engage students with technology, while building solid understanding of the math. You will bring increased success to your students and increase their math confidence with these tech tools.
I'm a Math Leader: Now What?	"Are you a math leader on your campus? Is this your first year as a math coach? Then, come join us as we share our lessons learned and different tools that have helped us succeed in this dynamic role in elementary mathematics."
Increasing Equity: Structures and Strategies that Promote Productive Conversations	"Do you want to advance equity and improve achievement for each student in your school or district? How do you set the stage for discussions around challenging the status quo and advocating for change? Purposeful action is needed to identify, acknowledge, and overcome disparities in access to high-quality instruction and instructional resources by demographic. Come explore structures and strategies that promote honest and reflective conversation about the reasons achievement gaps exist and the need for high-quality instruction that allows each student to maximize their potential."
Innovatively Teaching Solving Equations Through Real-Life Applications	"Technological advances are making traditional procedural focused worksheets antiquated. In addition, these traditional worksheets do not effectively engage students nor build their authentic problem-solving skills. In this workshop, participants will learn how to transform the concept of 'solving equations' into fun hands-on activities, real-life application scenarios, and collaborative projects that will help students formulate a profound insight and conceptual understanding of solving equations. Participants will be provided with tools and resources that can immediately be utilized in their respective classrooms."
Walk the Number Line for Research-Based Results for K-5!	"Elementary learners need a number line for powerful math concepts like skip counting, adding on, alternative algorithms for regrouping, making change, elapsed time, rounding, factoring and fractions! Number lines are the most frequently discussed math tool to achieve the TEKS. You will be amazed at the unique strategies that Kathy Collins of Kim Sutton Associates will use with this tool! You will be ready for action with all the latest ideas for teaching every area of mathematics using number lines!"
The Three "I"s to Mathematize Anything	"Math is everywhere and in everything, yet we only see it in the classroom with paper and pencil. Let's explore the three ""i's"" to supercharge anything to become a math experience that enhances engagement and learning for all."

Formula Chart Fixes	Are your students struggling with academic vocabulary and are unable to make the connection between the lessons experienced in class and the problems used in summative assessments? Learn to use the STAAR/EOC Reference Chart to help students make the connections between content terminology and successful application. Join us for a hands-on session of converting your grade-level reference chart into an instructional tool students can personalize and adapt to not only master concepts throughout the school year, but achieve success on high stakes state-level assessments as well.
Where's the "On" Button?—The TI-Nspire CX for Absolute Beginners	This hands-on session will explore basic features of the TI-Nspire CX handheld to support classroom instruction of the TEKS. Become familiar with all the built-in applications, and learn how to navigate around the handheld and through documents. This is truly for beginners. Handhelds will be provided, but feel free to bring your own.

Tuesday, 2:30 PM - 3:30 PM

Algebra I: Are You Ready for Readiness?	Experience activities that will use the properties and attributes of triangles and quadrilaterals to determine missing measurements in various sketches.
Hit Me With Your Best Shot Algebra I EOC!	"Are your Algebra I EOC scores where you want them to be? Do you want your students more engaged? Come hear how Corsicana High School, a Title 1 school, transformed our Algebra I EOC scores from 61% of the first-time testers passing in 2015 to 86% of the first-time testers passing in 2017. We will share our systemic changes that include scheduling of teachers and classes, use of technology, curriculum, ongoing formative assessment, and teacher instructional strategies."
Investigate STEM Behind Football and Baseball Creatively and Interactively	"Students will model the flight of a kicked field goal and interact with the math to investigate graphically and solve algebraically questions such as: is it good, the maximum height of the ball, how far does the ball travel? Obtain all materials—student worksheets and teacher notes and solutions. Similar investigations for baseball—is it a home run, the maximum height? For grades 8-12. Play, investigate, explore, discover—STEM!"
Precalculus Workstations	"How can we make Precalculus more student-centered?(T-TESS Anyone?) Math workstations is one answer. Students work alone, in pairs, and in groups to cement their understanding of important skills and concepts, while the teacher facilitates their learning. This can be accomplished through foldables, games, and technology. Participants will leave with both an understanding of the structure and access to many pre-made workstations coded to the TEKS strands for Precalculus."
Internet Resources for the TI-84 Plus—Blogs, YouTube, and More	And now for something completely different. In this demonstration session, let's explore various non-traditional Internet resources that can be used to support instruction with the TI-84 Plus. YouTube videos make excellent "How to" and tutorial lessons. Many online blogs provide useful resources and introductory materials. Feel free to bring your own form of technology and follow along.
The Flipped Asynchronous Classroom	"Do you wish you could spend more one-on-one time with your learners so that you could meet their individual needs? Are you tired of re-teaching those who are absent from your class? Try the Flipped Asynchronous Classroom model, as developed by Jon Bergmann and Aaron Sams. Learners are responsible for discovering basic concepts at home, and then are given the opportunity to practice new skills during class time, while the teacher provides formative assessment, correction, and additional guidance to each individual learner. In this presentation, you will learn from a six-year Flipped Classroom teacher how to get started with this model, how to assign "discovery homework," how to make students accountable for it, and how to design meaningful practice activities that engage learners for the entire class period."

The TI-84 Plus CE—Take a Look at What You Can Do Now!!! (TI)	This hands-on session will feature new functionality that is available on the TI-84 Plus CE graphing calculator, featuring the new Version 5.3 Operating System. New functionality has been added including grids, color images, a status bar with mode settings, Quick Plot, Fit Equation, piecewise functions, and more. The TI-84 Plus CE SmartView emulator software can also be used to collect data with a variety of probes and sensors including the CBR2 motion detector.
Geometry Activities with the TI-Nspire CX Technology (TI)	In this hands-on session, attendees will use the TI-Nspire CX technology to explore a variety of geometric concepts to support instruction of Geometry TEKS. Activities will feature strategies that can be used for instruction of both the middle-school and high-school geometry concepts. Attendees will also learn about geometry materials and lessons at: www.timathnspired.com . Handhelds will be provided, but feel free to bring your own.
The Financial Math Solution: The Real-World Classroom (RWC)	"Are you tired of, "When will I ever use this"? The RWC transforms classrooms into an economic system where students make financial decisions and experience the consequences. The RWC provides a uniquely diversified way of learning the mathematics of personal finance in a fun and challenging environment. Students manage resources, purchase assets, assume liabilities, invest, deal with the unexpected, and buy "Life Grades" as part of an ongoing lab simulation."
Got STEM? Bringing the S and E into Algebra Class	Come explore quick activities that use the TI-Nspire CX to integrate science and engineering into your mathematics class. You will leave with activities to use with your Algebra 1 and Algebra 2 students.
Creativity vs. STEM	Where does the creative impulse belong in STEM education? Why are tech companies recruiting Liberal Arts majors? Is mathematics still the fundamental part of STEM? If so, why is it so often taught without any challenge to demonstrate creative thinking? MIND Research Institute's Vice President of Content Creation, Nigel Nisbe, will demonstrate how using innovative technology based on neuroscience and motivational research can transform the learning process of mathematics for students, teachers, and parents.
So You're A Math Coach—Now What?!?	"This session will affirm all of your struggles and successes as a new math coach! We will focus on relationship building with your team, decoding an instructional coach menu of services, and sharing best practices via sample forms, videos, and real experiences."
Use Discourse to Access English Learners' Language and Mathematics	"Discourse in the classroom will increase English learners' productive and receptive language functions and their comprehension of mathematics concepts. All students need to reason, construct viable arguments, and critique the reasoning of others. Increasing discourse will support students' language development as well as their learning of rigorous mathematics as they engage in these practices."
Three Act Math Tasks with TEKS!	"Dan Meyer's Three Act Math tasks include engaging students through an entry event, providing more information, and setting up for extension lessons. Come to this session to experience some sample Three Act Math tasks and learn how to use them in your classroom. This session will also provide participants with a link to a crosswalk of Three Act Math tasks that are aligned to the TEKS."
Influence. Impact. Grow. Lead.	"Are you leading with or without a title? Are you wanting to lead? Let's explore ways to become a leader of influence, impacting efforts within a team, campus, or district. Let's collaborate to consider ways to encourage growth for ourselves and our colleagues to positively impact students and their learning."

Extended Sessions, Tuesday 3:00 PM - 5:00 PM

Applying Math to Engage with the World in High School	What are the consequences of a higher minimum wage? How do the rules of an election affect the outcome? What's the optimal price for pharmaceuticals? Do people prefer a low price or the illusion of a deal? The world is an interesting place full of interesting and important questions. Math class is the perfect place to explore them. Join the founder of Mathalicious, Karim Ani, to take a deep dive into one of these real-world applications using high school mathematics. Leave ready to facilitate one of these applications with your classes in a way that feels authentic, sounds conversational, and is mathematically rich.
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Rich mathematical conversations with high school students are possible!	Beyond the “show and tell” or the separate presentation of solutions, we will explore and compare different discussion “moves” to enable every student to draw connections between their solution and other student’s solutions as well as key mathematical ideas.”
Feeding Your Inner Mathematician through Math Teachers' Circles	Counting the number of ways to decompose a number into sums is an accessible but challenging puzzle. In this general interest session (particularly geared for elementary teachers), we will "feed our inner mathematicians" by exploring various ways to represent sums and the patterns that emerge from them, and see how changing our point of view can help us get started on a novel problem! Through investigating this problem, we will also introduce the format of a Math Teachers’ Circle (MTC). MTCs are communities of K-12 teachers and higher-education professors who meet regularly to investigate mathematics together. A growing body of research suggests that MTC participation increases mathematical knowledge for teaching, supports healthy teacher mindsets, contributes to greater professional engagement, and increases the use of high-leverage classroom practices that promote student learning. Based at the American Institute of Mathematics, a research institute supported by the National Science Foundation, the MTC Network provides centralized mathematical, organizational, and mentoring resources for a growing national community of MTCs.
Making the Connection: Linking Concepts and Procedures	Concepts and procedures are most valuable when they are connected. Engage in experiences designed to bridge concepts and procedures. Explore three critical components demonstrated as essential for connecting concepts and procedures in grades K-12. The three components for bridging concepts and procedures are to: (1) Know the mathematics; (2) Choose the right tasks; and (3) Make the connection explicit. Make sense of the three components through tasks, classroom video, and discussion. Objectives: Participants will: - Delineate between concepts and corresponding procedures through tasks; - Examine three components for supporting K-12 students to connect concepts and procedures; and - Develop a shared image of these components through classroom videos.

Tuesday, 4:00 - 5:00 PM

"Got Milk?" Learn the Math Behind the Perfect Tasting Milk	Anyone can be a dairy farmer, right? Learn how dairy farmers use math everyday, from simple calculations to complex math equations, all to bring the consumer the perfect glass of milk at a low cost. Teachers will also learn about mixtures to create the perfect glass of chocolate milk. This session will be fun and interactive (no milking cows though).
Automated Grading of Daily Work in the Math Classroom	The benefits of automated grading included increased classroom engagement and improved performance year over year (as shown from data). We will explore forms of questions (independent of platforms such as Google or Quia) for maintaining rigor with automating grading. Other issues that will be addressed include not having to recreate your classwork online, not overwhelming the student with the system, using unlimited attempts, setting expectations and dealing with late work."
Creating a Thriving Math Club Cheaply and Easily	A student math club fosters interest in math through extracurricular activities, promotes mathematical learning through friendly competition, and develops students' problem-solving skills. A math club opens the door to fun and exciting mathematics that is not normally taught in the classroom. This talk will give you information and materials to start a local math club or to enhance your current club. Sponsoring a club can feel like a lot of work; my goal is to provide you resources that make this as easy and as straightforward as possible. Experienced, veteran coaches and complete newcomer teachers are equally welcome— this session will have takeaways for everyone."
Supporting Success in AP Calculus—A Vertical Approach	How does what you teach in your mathematics class put students on a path to success in AP Calculus? Success in Advanced Placement courses begins well before the first day of the actual AP class. Teachers of mathematics courses prior to AP Calculus play a critical role in developing the foundation for success in AP Calculus. In this session, we will analyze the vertical progression of key concepts in AP Calculus as they develop across earlier mathematics courses. Come explore how what you do in your class opens doors to Advanced Placement opportunities for more students."

Teaching with Color—Using the TI-84 Plus C SE and the TI-84 Plus CE (TI)	During this hands-on session, attendees will use the TI-84 Plus Color SE and the TI-84 Plus CE graphing calculator to explore a variety of algebraic concepts to support instruction of the TEKS in math and Algebra classrooms. The session will focus on ways to use color to enhance instruction. The TI-84 Plus C SE and the TI-84 Plus CE are acceptable for use on the STAAR EOC, STAAR Math Grade 8, PSAT/NMSQT, SAT, ACT, IB, and AP exams.
How to Teach Algebra to Bored, Under-Prepared Students	Learning how to teach algebra to bored, under-prepared students has not been easy, but I am continually making progress. Let me share with you some things that have worked and some things that haven't. With this knowledge, we can help our students really gain from various remediation and preparation classes that they may have to take. Don't miss a great session."
Hands-On Test Prep/EOC Exam Tools	In this fast-paced session, participants will be guided via modeling and a PowerPoint presentation in the construction and application of interactive 3-D graphic organizers known as Notebook Foldables and Envelope Graphic Organizers (developed by Dinah Zike). Interactive graphic organizers allow learners of all ages to focus on concepts and the connections between concepts. Leave this high-energy session with your own sample test prep booklet, ready to adapt for your needs. See and hear examples from Algebra 1, Algebra 2, Geometry, Precalculus and other areas with particular emphasis on incorporating purposeful manipulatives and vocabulary mastery. Learn how to maximize your interactive notebook to prepare students for end-of-course exams and when to have students construct a separate manipulative (Envelope Graphic Organizer) for a portable, focused review tool. Help your students gain mastery as they use their hands and minds to #get math! All materials provided."
Colorful Transformation and Dilations with TI-84 Calculators—RUSMP	In this hands-on session, participants will use the TI-84 calculator to help illustrate to students a neat and fun way to understand congruency, dilation, transformation, and translation of figures."
Combining Like Terms—A Synthesis of Algebra Interventions	Access to, and completion of, a quality algebra course by 8th grade is positively linked with completion of higher-level mathematics courses, admission to college, and entry into STEM majors. Yet, only 8% of American students successfully complete algebra 1 by 9th grade. This presentation will (1) provide an overview of meta-synthesis (2) present the initial results of the meta-synthesis (3) Identify under-researched topics and underutilized theoretical perspectives in Algebra I research. First, a systemic search of the literature published from 1974 to 2016 in PsyInfo, ERIC, ProQuest, JSTOR, and Academic Search Complete was completed. Search terms included various combinations of algebra, intervention, and disability. Next, hand searches of prominent special education and mathematics education journals were completed and finally ancestral searches of articles. Search results yielded 69 articles and dissertations; 47 met over 60% of Brantlinger et al.'s (2005) quality and relevance criteria. Inclusion and quality inter-
Help! My Students Are Bored! How Can I Engage Them?	"For teachers to engage students, they must begin from the students' point of view. What is it that drives students to learn? Experience an interactive teaching strategy designed to motivate and engage students while deepening conceptual understanding."
Who's In? Strategies for Inclusion Classrooms!	"Do you have students that you deal with? Don't deal, instead, build relationships! Instead, ask, "Who's in?" Teachers who build relationships with their students are involved socially, emotionally, and take time to connect with the students in class. Learn inclusion classroom strategies and social supports to help build relationships and maintain predictability and stability for your students. Communication and consistency are keys to building their trust, and it lets students know, "Who's in!""
#tech2teach: Transforming your Classroom with Technology	Today's students are more technologically-minded and able than we could ever be. Come explore some of the most effective tech tools that will promote engagement, reinforce conceptual understanding for our students, and maximize your valuable time. Learn about the latest educational apps and programs that will make your students go crazy for math.

Friends With Math	We need to change society's relationship with math. What happens when you break math out of its artificial shell and spend time with it like you would with a friend? You get even more learning! Let's crack open the world of math experiences and see what building a friendship with math can be like for all of us.
Use Hip-Hop Math Songs to Excite and Empower Learners	"Music can effectively lower anxiety, promote deep student discourse, empower students, and create an exciting learning environment. Come and learn how to use music in the classroom to tap into student emotions, lower affective filters, be culturally responsive, and teach students before math even begins."
Need Closure? Strategies for Moving On	Some teachers have difficulty closing a lesson. This session will focus on engaging strategies and techniques to help teachers wrap up learning and get ready to move on to the next lesson. Participants will leave with multiple resources and activities for immediate use in their classroom.

Opening Sessions, Wednesday 8:00 AM - 9:30 AM

What's Important in Math Today?	The primary purpose of the school system has always been to prepare students for society. But with society changing more rapidly than ever before, it seems our students are being prepared for yesteryear's economy. This session will reflect on recent decades to see how the mathematics curriculum prepared students for the society of the day. In doing so, it will provide a rationale for expanding the focus of classroom mathematics to include the thinking skills that students now need in order to engage effectively in today's (and tomorrow's) world. Additionally, participants will discover how to stimulate thinking and reasoning skills through language and discourse and by building a solid foundation of conceptual understanding.
Deliberate Optimism: Reclaiming the Joy in Education	Do you feel like you are doing more and enjoying it less? Are there certain colleagues who are "getting on your last nerve?" Dr. Debbie Silver discusses how educators can maintain a positive sense of self through proactive principles of working and living. Learn how to maintain your sanity while performing the important job you do. Debbie offers participants an entertaining and thought-provoking look at how teachers can regain their power and rejuvenate their positive attitudes.

Extended Sessions, Wednesday, 10:00 AM-12:00 PM

Creating Rich Mathematical Conversations Using Open Questions	Because math is such a sequential subject, teachers have found it difficult to find strategies to differentiate instruction that don't require a lot of separate preparations for different students. But the use of open questions that focus on important math ideas rather than only specific "tight" skills, particularly with a focus on visual presentation and visual solutions, allows teachers the ability to serve the needs of all students in a community of learners without developing many, many independent tasks. It also leads to rich mathematical conversation that provides teachers a great deal of insight into what students are thinking. Participants will have an opportunity to both meet and create such tasks for different courses in Grades 9 - 12.
Fall Down 7 Times, Get Up 8: Teaching Kids to Succeed	Dr. Debbie Silver is one of the most sought-after keynoters and professional development presenters in the United States. Audiences everywhere respond to her use of humor, candor, and common sense. Her insights into human behavior are as undeniable as they are funny. In this presentation, she delves into motivational concepts including self-efficacy, attribution theory, zone of proximal development, deliberate practice, and growth mindset. Based on her best-selling book, Fall Down 7 Times, Get Up 8: Teaching Kids to Succeed, Debbie provides down-to-earth examples of concrete, applicable guidelines for helping students overcome setbacks and failure to foster lifelong success.

Wednesday, 10:00 AM - 11:00 AM

Exploring Quadratic Activities in Algebra I with the TI-Nspire™ CX Technology (TI)	During this hands-on session, attendees will use the TI-Nspire CX handheld to explore a variety of quadratic activities to support instruction of the TEKS in Algebra classrooms. The TI-Nspire CX Navigator System will also be used for instruction. Handhelds will be provided. The TI-Nspire handheld is acceptable for use on the STAAR Algebra I EOC, STAAR Math Grade 8, SAT, ACT, IB, and AP exams.
Games to Actively Engage your Algebra II Students in Learning—RUSMP	Participants will explore a variety of games that enhance problem-solving skills in the Algebra II classroom and will discuss the pedagogical implications for including such activities in their repertoire of lessons.
Success on Day 1 with the TI-84 Plus Graphing Calculator	Whether you are integrating the TI-84 Plus family into your classroom for the first time, or simply want to polish your skills for back to school, this session will highlight strategies for success on Day One. We will explore basic technology skills on the graphing calculator, and you will also learn techniques for modeling technology skills in your classroom with the TI-84 Plus SmartView software. The upgraded SmartView software includes all versions of the TI-84 Plus family.
Preparing for Success on High-Stakes Exams with TI-Nspire CX	Explore a variety of ways TI-Nspire can help your students feel confident going into any high-stakes exam. Participants will receive hands-on practice with strategies that can help students save time and avoid mistakes. Leave with step-by-step tutorial guides and videos to help you and your students make the most of their graphing technology during state and college entrance exams.
OnRamps College Before College	"Learn how you can help your students earn college credit through UT Austin or Texas Tech, as well as help your school improve their state rating. The On-Ramps programs will do just that. We will present our 2-years teaching On-Ramps Statistics and Pre-calculus, including the training needed, the benefits, and how our program has grown. UT Austin will join us as guest speakers to answer any further questions. You don't want to miss it!"
The Jigsaw Puzzle of Function Graphing	"The TEKS requires high school students to be able to graph functions, including those involving polynomial, rational, radical, exponential, and logarithmic functions. Doing so requires an understanding of concepts such as x- and y- intercepts, domain and range, maximum and minimum values, horizontal and vertical asymptotes, and the end behavior of the function. Graphing calculators are extremely valuable aids in discovering these characteristics, but they cannot be trusted implicitly due to their limitations—for those familiar with Lord of the Rings, the calculator is rather like the character Gollum, in that it is indispensable for helping you find your path, but will treacherously mislead you if you are not vigilant. This presentation will first discuss the aforementioned characteristics -- what they mean and general principles for finding them. Particular attention will be paid to some valuable details that are often overlooked, such as how the form of the function dictates what happens graphically on either side of an x-intercept or a vertical asymptote and how it affects the left and right end behavior of the graph. Taken as a whole, this information provides a set of "puzzle pieces" that can be fit together in exactly one way to create the graph of the function. And, just like a jigsaw puzzle, some pieces have more than one way of determining whether they'll fit in a certain place or not! During the presentation, several such "puzzles" will be assembled using various function types. Many of the ""puzzle pieces"" will be constructed without the use of a calculator, but a graphing calculator will also be used when needed, so attendees may wish to bring theirs."
What Is Computational Thinking and What In the World Is It Doing In My Classroom?	"What do we mean when we say computational thinking? What does it look like, sound like? Join us as we explore the meaning and the role of computational thinking in our students' day-to-day activities and how we, as teachers, can support them. We will utilize a variety of mediums to experience rich tasks including the TI-Nspire CX™ handhelds and even venture into coding!"

Supporting Success in AP Statistics—A Vertical Approach	"How does what you teach in your mathematics class put students on a path to success in AP Statistics? Success in Advanced Placement courses begins well before the first day of the actual AP class. Teachers of mathematics courses prior to AP Statistics play a critical role in developing the foundation for success in AP Statistics. In this session, we will analyze the vertical progression of key concepts in AP Statistics as they develop across earlier mathematics courses. Come explore how what you do in your class opens doors to Advanced Placement opportunities for more students."
Online Videos which Support Class Material	The online videos I make may be used in many modalities such as face-to-face, web-enhanced, hybrid, and blended classes. The videos may be used to assist students in preparing for exams and understanding presented material, which allows students to be more successful on the exams and in the class. The videos may also be used in lieu of a substitute to ensure continuity of how the material is presented and less confusion for the students.
Mathematical Modeling— A Way to Understand Life and Universe	"Mathematical Modeling is an important tool that helps students relate their mathematical knowledge to its various applications, including personal finance, science, engineering, fine arts, and social sciences. In this presentation, we demonstrate mathematical models in different applications. For this purpose, we use algebraic methods to model the real-world problem by use of linear, quadratic and exponential functions."
Modeling with Parametric Equations	"Participants will use the problem-solving model described in the mathematical process standards, as they are active participants in determining an essential question to be resolved. In the course of the session, it will become apparent that an appealing course of action will include the use of parametric equations. This will be an interactive session, so plan to be engaged learners. TI-84 Plus CE handhelds will be available."
Dana Center/Agile Mind Course Program Users Meet Up	"Have you been teaching with the Dana Center/Agile Mind middle school or high school mathematics course programs for a year or two? Are you planning for your first year of implementation? Are you currently teaching with other resources, but want to learn more about what Agile Mind has to offer? Network and learn with educators who are using the Dana Center/Agile Mind middle school and high school mathematics programs. This highly interactive gathering will start with an overview of what's new in the course programs, and then focus on how you and your students can get the most out of Agile Mind. Bring your ideas and questions for the designers and developers of the courses! Participants will be encouraged to share their own success stories, strategies, and challenges. Leave with inspiration, fresh ideas, and new collaborators!"
Engage and Motivate All Students with Differentiated Instruction	What exactly is differentiation? How can one lesson meet the needs of all learners? Are you tired of one-size-fits-all instructional methods? Discover how to approach differentiation to meet the needs of all mathematics learners.
Progress Monitoring Tools for K-5 Mathematics	"Within a system of intervention, we know we must monitor the progress of our students toward their goals. But, what tools do we use? Where do we start? On what topics do we focus? How do we determine growth? In this session, I will share examples of the K-5 progress monitoring tools I developed to answer these questions, and more! I will also provide digital access to these tools. Did I mention they are aligned to the TEKS and I will share them all with you (for free!)"
TI-Nspire Navigator™ System Activities for Intermediate or Advanced Users (TI)	This hands-on session will demonstrate some advanced features of the TI-Nspire CX Navigator using the TI-Nspire handheld technology to support instruction of the TEKS and STAAR preparation. An overview of TI-Nspire Navigator resources available at the www.timathnspired.com website will also be provided. If you have the TI-Nspire CX Navigator system, and have been using it for instruction, this session is for you.
Student Songwriting 101	"Since writing leads to deeper understanding, let's use the novel experience of songwriting to increase students' depth of knowledge. In writing songs, learners begin to own math content and develop pride in the work they do. Students become content experts as they write math songs that can be used in many ways!"

How to Effectively Plan for the Math Classroom	"How do you use the resources provided to effectively plan for an engaging math classroom that hits the TEKS and helps students to achieve mathematical understanding? Wendy will talk about the ""prep versus planning"" approach that her campus uses to help students become successful in the math classroom. She will share what resources they use and how data is used to plan lessons and make good instructional decisions for students. You will get a glimpse into what a planning room looks like where teachers come together in a true PLC to make planning decisions for students success."
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Wednesday, 11:30 AM- 12:30 PM

Calculus Activities and Ideas That Provide Lasting Understandings	"During my session, I will focus on creative ways to help students understand some of the major concepts in AP Calculus by using low-tech high-tech tools. By exploring derivative graphs created by graphing calculators, participants will recognize and identify derivatives of functions and discover some of the algebraic processes of basic derivative rules. Using derivative rules, graphs of the first and second derivatives will be graphed using Wikki Stix in order to provide a tangible method of analyzing and describing topics such as increasing/decreasing, concavity, critical points, and inflection points. Participants will be given the opportunity to create and investigate dynamic graphs using online graphing tools in order to explore and analyze various topics such as slopes of tangent lines and area under a curve (definite integrals and Riemann Sums). Projects created for students to incorporate topics into real problems will be displayed and discussed."
CS Endorsement Enhances Opportunities for Math Teachers	A growing demand for computer science (CS) certified teachers in Texas makes it an opportune time for mathematics teachers to seek CS endorsement. We will discuss the Teacher Education in Computer Science program which prepares math teachers to teach the Advanced Placement CS-Principles and Pre-AP Exploring CS courses. There will be discussion on how middle- and high-school teachers from Texas could partake in this NSF-funded project.
Innovative Ways for Students to Learn Transformation Geometry	"These immediate, interactive investigations will have students discovering geometric concepts in less than 15 seconds, using amazing technology. Students will be encouraged to play-investigate-explore-discover while performing colorful, dynamic reflections, translations, rotations, and dilations. All activities we do—including student worksheets and teacher notes and solutions—will be made available to the participants! TEKS aligned for grades 8–11."
Technology—The Good, the Bad, and the Ugly—RUSMP	"Interactive technology is changing the way math is taught. Many of us have mixed feelings about it. We can't go back, but how do we go forward? Facing new methods of instruction and classroom organization, what decisions can teachers make to provide maximum benefit to students?"
Top Ten Overlooked TI-84 Plus Features	This session will provide practical advice on TI-84 Plus functionality. Whether you are a TI-84 Plus veteran, a TI-84 Plus C SE user, or are picking up the TI-84 Plus CE for the first time, there are many valuable, often overlooked features that can enhance instruction and increase student understanding. We will explore: more than computation on the Home Screen, Y= and beyond on the graph screen, graph databases, programs, APPs, shortcuts, and TI Software and resources.
Who is Driving the Car—Student Data Tracking	It is not humanly possible for one person to drive 20-30 cars at one time. Our students must be held accountable for their own learning and be able to drive the vehicle that will allow them to get to their individual destinations. Learn ways for your students to track their own data by standards that have meaning to them! Teachers will be introduced to innovative data-tracking forms and wall posters that students use daily. Participants will leave the session with knowledge of effective methods for students tracking their own data formatively and summatively. Students find value in learning and can articulate their learning needs.

Got Innovative Assessments?	"Technology is changing the landscape of formative and summative assessments. While Texas still uses multiple choice items for our high-stakes exams, should we be considering more innovative, technology-enhanced items for student assessment at the classroom level? How can these types of items help teachers engage students in conceptual understanding? In this session, we will look at a variety of innovative item types and analyze what the items tell us and don't tell us about student understanding. We will consider how these items allow students to be more engaged with the mathematics and teachers to better assess conceptual understanding."
Using The TI-Nspire to Conquer the Algebra 1 EOC test	In this session, I will be presenting several methods in which the TI-Nspire can be used to aid students in solving Algebra 1 EOC-type questions. We will be using the handheld to explore problem-solving methods. Our goal is for all students to get more questions correct. I hope you will join me for this exciting session!
OMG! Math	"Come see how graphic organizers can transform your class! Make an Outstanding Math Guide (OMG) containing graphic organizers with steps, examples, and vocabulary for every key concept taught throughout the year. This creative guide offers students a quick reference that will put the year's curriculum at their fingertips! The OMG will transform your classroom and help you introduce or review material in a way that is fun and exciting for students! We will also model making the organizer and three of the graphic organizers in a make-and-take session for you to replicate our success in your school!"
What's the Wifi Password?	How can you use 21st century learning to engage your students? Explore how you can engage students and build a framework of conceptual understanding with inquiry-based learning and real-life connections. Teachers will learn how to be innovative with the use of technology to check for student understanding. We will learn how to increase student engagement and understanding through various applications and pop culture.
Assessment Strategies Can Make an Impact	"Summative assessments are inevitable in the math classroom. What if there was a way to build student confidence and have each student engaged in academic discussion before and after an assessment? In this high-energy session, we will model and share strategies that allow assessments to become tools for engagement, rigor, and student learning."
Integrating Physical Activity into the Mathematics Classroom	"The connection between physical activity, health, and academic performance is well-documented, and schools have been identified as an ideal access point to increase movement. Specifically, moderate-intensity activity prior to math lessons increases student engagement and math performance. In this interactive session, participants will learn about the association between movement integration and math achievement, engage in discussion and activity regarding barriers to implementing classroom physical activity that addresses common barriers and methods of diminishing or overcoming barriers, and become familiar with various math-specific sample activities to implement in their own classrooms."
Processing the Process Standards K-5	"In this session, participants will take an in-depth look at the mathematical process standards. They will engage in activities that cover each strand and collaborate with each other on how to incorporate these activities in the classroom. Participants will receive a variety of instructional activities (digital and hard copy) and implementation documents for easy collaboration with teachers on their campuses. This session is open for grades Kindergarten through fifth grades."
The Students Won't Stop Talking—And That's A Good Thing!	As social creatures, students make sense of their world through communication and interaction. Why is it, then, that so many math teachers want to keep their students quiet? Learn the importance of student talk and how it can be used easily and effectively to build relationships. Walk away with three strategies you can use to build a positive classroom environment that won't drive you nuts!

#PD2C: Connect and Capitalize on Social Media as a Professional Learning Tool	"Given the undeniable prevalence of social media, it makes sense to utilize the power of virtual platforms to extend professional learning in mathematics beyond the traditionally passive sit-and-get style. By intermingling professional learning into social and personal communications, educators can develop and share ideas in real-time, making important connections among instructional content and authentic contexts in short and manageable bursts. When used effectively, Mobile Learning and Social Media allows for longer and deeper thinking and discussion about critical mathematical content. The Charles A. Dana Center at The University of Texas at Austin will share how we are capitalizing on these unique learning formats and the research that supports these practices. Through the use of memes and short videos, participants will engage in rigorous tasks and thought-provoking questions that entice discussion and encourage professionals to make immediate changes in their practice."
Effective and Successful Grant Writing Strategies (TI)	This session will provide practical advice to help prepare grant proposals for federal, state, local, foundation, and corporate funds to purchase equipment and materials for classroom instruction. A variety of resources prepared by Texas Instruments and other open sources materials will be provided to participants. This session is not just specific to calculator technology—learn basic grant-writing skills to prepare a grant for any materials and resources you might need in your classroom.
Real Math for All Students	How do different perspectives on learning math affect both the teacher and learner? How can we leverage those differences to help all students construct real mathematics? What is real math versus fake math? I'll share insights and suggestions for helping more students learn more math.
Graphing Calculators—Tips, Tricks, and Good Stuff You Need to Know	This hands-on session will focus on various features of the TI-84 Plus family of graphing calculators. Topics will include the equation solver, storing pictures, using Boolean Logic to test answers, memory reset for testing, archiving, games, table setup, zoom memory, grouping, split screens, and much, much more. Don't miss this one.

Wednesday, 1:00 PM - 2:00 PM

Cookies, and Chocolate, and Bears! Oh, My!	"What do Oreos, M & Ms, and Gummi Bears have in common? They are all excellent motivators and manipulatives in the math classroom! In this workshop, we'll have fun using these simple ingredients to mix up some great math problems! The activities in this workshop are appropriate for Algebra 1, Algebra 2, and College Algebra/Pre-Calculus classes."
Rural Educators' Knowledge and Perceptions of Evidence-Based Algebra Interventions	"Although high-quality professional development is needed to help in-service teachers stay current in the field, rural teachers are less likely to receive subject-specific professional development. As a result, teachers in rural areas have increasingly turned to the Internet as a source of teaching resources. This session will discuss the results of a survey study about rural teachers' awareness and perceptions of evidence-based online resources. Access to, and completion of, a quality algebra course by 8th grade is positively linked with completion of higher-level mathematics courses, admission to college, and entry into STEM majors. Yet, only 8% of American students successfully complete algebra 1 by 9th grade. Therefore, it is important that interventions are in place to support all students' access to Algebra I."
Ten Minutes of Coding with the TI-84 Plus Graphing Calculator (TI)	This session will introduce participants to TI-BASIC coding language for the TI-84 Plus family of graphing calculators. Attendees will learn hands-on how to use programming commands built into the TI-84 Plus and begin to write a few simple programs of your own. A variety of resources will be shared. Graphing calculators will be provided, or feel free to bring your own.
Exploring Parametric Representation— RUSMP	Participants will explore the use of parametric representations and consider strategies that help students make connections and improve understanding of important function concepts in Algebra II and Pre-Calculus.
Movement in Mathematics	Students struggle to sit still and concentrate in a 90-minute class. We will look at activities that help break up the class as well as stimulate learning. The majority of the activities will be simple and easy-to-implement. Examples will mainly use Algebra 2 as a basis.

Modeling Important Social Issues with Data: Opioid Overdose Deaths in the United States	"Have your students mathematically model this shocking real data from 2000 on. Make your students aware of these social problems and their consequences, and have them use the math that they are learning to analyze and interpret this real-world data. We will use graphing calculators that have the data preloaded and analyze how to create a function or piece-wise functions (linear and/or quadratic) to model the data for interpolation and extrapolation purposes. We will also discuss how to calculate and interpret per cent change. This works with any graphing technology. All materials: data, student worksheets, teacher notes and solutions, blog will be available."
STAAR, STEM, and TEKS Resources at the TI Website (TI)	This presentation will provide an update of the latest free resources from Texas Instruments featuring support materials at www.education.ti.com . Learn about 1000+ free calculator activities and lesson plans; SAT, ACT, and AP materials; tutorials; and free training webinars. Explore TEKS specific materials for your classroom, and STAAR Tutorial Guides. Learn about TI's new 84 Activity Central and the TI-Nspire CX Resource Center. If you use TI calculators, this session is for you.
Using Innovative Technology and Interactive Songs to Engage All Students in Statistics	Not all students love statistics, but all love music! This NSF-funded multi-institution, web-based intervention has students supply concepts and contexts that get incorporated (in a loose "Mad Libs style") and highlighted in a finished song (of high artistic quality) for them! We'll tour the 26-song standards-based collection (spanning an intro statistics course) and discuss results of recent informal pilot studies and randomized experiments to assess student engagement and learning gains. Participants will learn a new way (transferable to other math/science courses) to engage diverse students undermotivated by more traditional instruction. We share pilot findings from diverse settings, including a predominantly-Black two-year college. Bring Your Own Device.
Changing Minds: Coaching for a Mathematical Mindset	Teachers' identities as math learners and fundamental beliefs about the nature of mathematics play a critical role in shaping both the learning opportunities given to students and students' math mindsets. This session will examine the impact of mindset on teacher learning and instructional improvement. It will consider ways that coaching can help teachers reflect on their unconscious beliefs and take steps towards adopting a growth mindset.
Making Sense of the TQE Process	"In this engaging session, participants will experience how selecting the correct tasks and engaging with them as learners is crucial preparation for effective instruction. This engagement includes developing effective questions that provide evidence of student learning through tasks, questions, and evidence (the TQE process). Edward C. Nolan uses video of authentic classrooms to create a shared image of rigorous mathematics instruction and to support the importance of making sense of mathematics for teaching."
Math Coach's Cafe	"As a coach, your head is often swimming with ideas of "what could be." This interactive session is intended for math coaches, specialists, or other educators who support math teachers by encouraging the use of best practices. Session participants will gain practical ideas, collaborate, address challenges, and celebrate successes."
Personalize Your Students' Learning Experience Using IXL	IXL Learning is a web-based program used to reinforce curriculum. It does not take the place of direct instruction. IXL enables teachers to individualize instruction, allows students to work at his/her own pace, so learning is moved forward because of detailed, real-time data that is provided upon completion of technology time. The IXL program offers skills that range from Pre-K through 12th grade. Subjects offered are Language Arts, Math, Science and Social Studies. Participants will engage in activities and be provided a lecture that will clearly paint a picture to give participants a visualization of what students experience as they rotate through whole-group instruction, small-group instruction, technology, and independent workstations.

<p>Infusing our Math Classrooms with Loving Kindness— Opportunities and Challenges</p>	<p>Wouldn't it be nice if our math classrooms had an atmosphere of loving kindness? Loving kindness is the warmth and openness in one's heart for the well-being and happiness of others. Participants will learn about different kinds of kindness, two types of happiness, the link between kindness and happiness, and how to cultivate kindness within and then infuse one's classroom with kindness. In this interactive session, participants will inspire each other through stories of kindness they experienced in their classrooms and share ideas such as nurturing without pampering or building students' confidence in math without reinforcing their ego, discuss how kindness can guide us through adverse situations, identify obstacles to practicing kindness in our math classrooms, and come up with strategies to overcome those obstacles.</p>
<p>Promoting Student Ownership of Learning Using Checklist</p>	<p>"See how students can use student-friendly objectives, or ""I can"" statements, to monitor their own learning progress to create shared ownership for mastery of standards. In this session, participants will learn how to create and use a one-page document to help students, including ELL and Inclusion, track mastery of standards. Participants can use the chart as an informal assessment tool to inform classroom instruction."</p>
<p>How Do We Know What They Know? Visible Mathematics Learning</p>	<p>We must know what students know to guide them forward. John Hattie's Visible Learning database helps us make good decisions about what strategies to use for what purpose for effective mathematics teaching. Learn about this research and its implications for mathematics teachers and students. Participants will engage in mathematics tasks and discourse strategies grounded in the meta-analyses built from the Visible Learning database. The session will model a sequence of learning experiences designed to make learning visible to teachers and students at all levels. The Visible Learning research tells us what is most effective for students from a wide range of populations. This session translates this research into practical strategies for mathematics teachers so they can use this foundation to create classrooms with equitable opportunities where every learner is empowered to access rich mathematics.</p>