



2018-2019 Mathematics Workshops

For High School Teachers

arranged by Joseph G. Rosenstein and Neil D. Cooperman

sponsored by the Association of Mathematics Teachers of New Jersey (AMTNJ)

with the cooperation of DIMACS, the Center for Discrete Mathematics and Theoretical Computer Science,

and the Rutgers Department of Mathematics

Overview:

Would you like to:

- Better prepare your students for New Jersey's statewide assessments?
- Engage your students in the lessons that you teach?
- Learn more mathematics content that is relevant to your classroom?
- Incorporate standards-based hands-on activities that motivate your students?
- Relate what you are doing in the classroom to "real world" applications?

Twenty-seven, highly interactive, one-day professional development workshops for high school math teachers are offered during the 2018-2019 school year. These workshops address a broad range of topics that are applicable to all curricula taught by grades 9-12 teachers of mathematics.

These workshops are sponsored by the [Association of Mathematics Teachers of New Jersey](#) (AMTNJ) with the cooperation of [DIMACS](#) (the Center for Discrete Mathematics and Theoretical Computer Science) and the [Rutgers Department of Mathematics](#).

There are workshops on every area of high school mathematics -- algebra, geometry, trigonometry, precalculus, calculus, probability, statistics, and discrete mathematics -- as well as cross-content workshops on mathematics instruction and applications.

All workshops are connected to New Jersey's state standards in mathematics. All of these workshops will help you better prepare students for the statewide assessments and provide the resources and knowledge that you need to generate new and exciting standards-based lessons.

All workshops are full-day workshops at which participants will earn six (6) professional development hours. All workshops will take place on the Busch Campus of Rutgers University-New Brunswick. Participants may attend single or multiple workshops in any order.

The fee for each full-day workshop (except for the March 17 Precalculus Conference) is \$205 (\$10 discount for each online registration). Discounts are available for multiple registrations on a single purchase order. Conference or workshop registrations include eMembership in AMTNJ through December 31, 2019.

Although some workshops address overlapping issues, teachers who attend multiple workshops will benefit from experiencing the different approaches workshop leaders have to helping students meet the challenges of the state standards and assessments. Our instructors are among the most experienced and respected workshop leaders in the state. The workshop topics are based on feedback and recommendations from New Jersey teachers and administrators.

You will leave these workshops with valuable tools to motivate your students, stimulate their curiosity, and promote a more positive attitude towards mathematics.

Workshop Titles (in chronological order):
(scroll down for workshop descriptions in alphabetical order)
(all workshops begin at 9:00 am)

- **Mathematics and Art: Perfect Together: Don't Teach Art Instead of Math, Teach Math with Art!, Grades 6-10**
Date: Thursday, November 15, 2018 (Code: W-11-15-18) **Postponed to February 5, 2019**
Presenter: Judith T. Brendel
- **Do Your Students Persevere in Solving Problems?, Grades 6-12**
Date: Monday, November 26, 2018 (Code: W-11-26-18)
Presenter: Debra Gulick
- **Tips for Math Coaches, Math Supervisors, and Math Leaders, Grades K-12**
Date: Wednesday, November 28, 2018 (Code: W-11-28-18)
Presenter: Angelo DeMattia
- **Get Smarter! Take the SAT or ACT!, Grades 9-12**
Date: Thursday, November 30, 2018 (Code: W-11-29-18)
Presenter: Robin Schwartz
- **Flipping the Math Classroom, Grades 6-12**
Date: Friday, December 7, 2018 (Code: W-12-07-18)
Presenter: Jennifer Goforth
- **Intervention Strategies for Struggling Learners in Mathematics, Grades 6-9**
Date: Thursday, December 13, 2018 (Code: W-12-13-18)
Presenter: Irina Lyublinskaya
- **Is That Your Final Answer? Developing Mathematical Thinking with Questions, Grades 6-12**
Date: Friday, December 14, 2018 (Code: W-12-14-18)
Presenter: Robin Schwartz
- **Nothing but Desmos, Grades 8-12**
Date: Monday, January 7, 2019 (Code: W-01-07-19)
Presenter: Eric Milou
- **Reinventing & Reimagining the High School Mathematics Classroom, Grades 9-12**
Date: Tuesday, January 15, 2019 (Code: W-01-15-19)
Presenter: Eric Milou
- **SAT and CCS, Grades 6-12**
Date: Thursday, January 17, 2019 (Code: W-01-17-19)
Presenter: Laura Champion

- **Algebra: an Equity Issue, Grades 3-12**
Date: Wednesday, January 30, 2019 (Code: W-01-30-19)
Presenter: Debra Gulick
 - **Bringing Sustainability into the Mathematics Classroom, Grades 9-12**
Date: Friday, February 1, 2019 (Code: W-02-01-19)
Presenter: Eugene Fiorini
 - **Mathematics and Art: Perfect Together: Don't Teach Art Instead of Math, Teach Math with Art!, Grades 6-10**
Date: Tuesday, February 5, 2019 (Code: W-02-15-19)
Presenter: Judith T. Brendel
 - **Math Modeling, Grades 6-10**
Date: Monday, February 11, 2019 (Code: W-02-11-19)
Presenter: Jennifer Martins and John Kerrigan
 - **Project Based Learning for Algebra Students, Grades 7-9**
Date: Friday, February 15, 2019 (Code: W-02-15-19)
Presenter: Nicole Ealey
 - **Formative Assessment, Productive Struggle, and Student Discourse, Grades 6-12**
Date: Tuesday, February 19, 2019 (Code: W-02-19-19)
Presenter: Neil D. Cooperman
 - **Using Technology in the Math Classroom, Grades 7-12**
Date: Wednesday, February 20, 2019 (Code: W-02-20-19)
Presenter: Dianna M. Sopala
 - **Using Data in a Mathematics Classroom to Drive Instruction, Grades 7-12**
Date: Thursday, February 21, 2019 (Code: W-02-21-19)
Presenter: Dianna M. Sopala
 - **Precalculus Conference: Good Ideas in Teaching Precalculus and....**
Date: Friday, March 22, 2019 (Code: PRECALC-19)
Audience: Grade 9-14 Mathematics Teachers, Mathematics Supervisors
- A dynamic, annual, one-day conference for teachers and supervisors of high school mathematics, now in its 33rd year. Attend up to 4 sessions on diverse topics, plus a sharing session and plenary session. Take some really good ideas back to the classroom! For more information, see conference website – <http://dimacs.rutgers.edu/archive/precalc-conf/>
- **Empowering Students Who Ask, "When Are We Ever Going to Use This Math?," Grades 6-12**
Date: Thursday, March 28, 2019 (Code: W-03-28-19)
Presenter: Robin Schwartz
 - **Geometry investigations with GeoGebra, Grades 9-12**
Date: Wednesday, April 17, 2019 (Code: W-04-17-19)
Presenter: Irina Lyublinskaya
 - **Exploring Trigonometric Functions and the Unit Circle, Grades 9-12**
Date: Monday, April 22, 2018 (Code: W-04-22-19)

Presenter: Mark Russo

- **Desmos Activities for Algebra 2 and Precalculus, Grades 9-12**
Date: Wednesday, April 24, 2019 (Code: W-04-24-19)
Presenter: Kathleen Carter
- **Everyday Applications of Mathematics, Grades 8-12**
Date: Monday, April 29, 2019 (Code: W-04-29-19)
Presenter: Joseph G. Rosenstein
- **Simple Hands-on Activities for Sixth through Ninth Grade Math Students, Grades 6-9**
Date: Friday, May 3, 2018 (Code: W-05-03-19)
Presenter: Ira Nirenberg
- **Mathematical Activities for Above Grade Level Students, Grades 9-12**
Date: Tuesday, May 7, 2019 (Code: W-05-07-19)
Presenter: Ira Nirenberg
- **Understanding Quadratics: Analyzing Data, Writing Equations, and Modeling with Technology, Grades 6-12**
Date: Friday, May 10, 2019 (Code: W-05-10-19)
Presenter: Kathleen Carter
- **Developing Rich Tasks in the High School Mathematics Classroom, Grades 9-12**
Date: Tuesday, May 14, 2019 (Code: W-05-14-19)
Presenter: Irina Lyublinskaya

Workshop Descriptions (in alphabetical order):

- **Algebra: an Equity Issue, Grades 3-12**

Date: Wednesday, January 30, 2019 (Code: W-01-30-19)

Time: 9:00 am – 3:30 pm

Presenter: Debra Gulick

Audience: Grades 3-12 Mathematics Teachers and Supervisors

Algebra appears as a standard at every grade level from 1 through high school. This session will address what algebraic thinking looks like at the elementary level, and why what happens in the elementary classroom is critical to the success of all students in future years. This session will also explore algebra in the middle school and the algebra content in the grade eight standards. Algebra is not just a course, it's an entire way of thinking and asking questions that spans grade levels.

- **Bringing Sustainability into the Mathematics Classroom, Grades 9-12**

Date: Friday, February 1, 2019 (Code: W-02-01-19)

Time: 9:00 am – 3:30 pm

Presenter: Eugene Fiorini

Audience: High School Mathematics Teachers and Supervisors

This workshop demonstrates activities that highlight the role of the mathematical sciences in sustainability. Topics include applying algebra, trigonometry, statistics, calculus and discrete mathematics to issues involving management of natural resources, monitoring the effects of global climate change, response to natural disasters, and human resource management. Participants will work through the activities and discuss how to

adapt them to their individual classrooms.

- **Desmos Activities for Algebra 2 and Precalculus, Grades 9-12**

Date: Wednesday, April 24, 2019 (Code: W-04-24-19)
Time: 9:00 am – 3:30 pm
Presenter: Kathleen Carter
Audience: High School Mathematics Teachers and Supervisors

Participants will play the role of students in examples of rich math tasks utilizing the Desmos Calculator and Desmos Activity Builder. Activities for topics such as quadratics, polynomials, and rational functions will be shared. Participant will learn to customize Activity Builder lessons and how to use the Desmos Activity builder for assessments. This workshop is designed for grade 9-12 educators with tools for ongoing support shared for learning after the workshop. Bring your laptop!

- **Developing Rich Tasks in the High School Mathematics Classroom, Grades 9-12**

Date: Tuesday, May 14, 2019 (Code: W-05-14-19)
Time: 9:00 am – 3:30 pm
Presenter: Irina Lyublinskaya
Audience: High School Mathematics Teachers and Supervisors

In this workshop we will focus on analysis and development of rich tasks for high school mathematics classroom. Participants will compare and contrast various tasks to determine criteria that make tasks rich and apply these criteria to develop lessons with rich tasks for their own classrooms.

- **Do Your Students Persevere in Solving Problems?, Grades 6-12**

Date: Monday, November 26, 2018 (Code: W-11-26-18)
Time: 9:00 am – 3:30 pm
Presenter: Debra Gulick
Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

Algebra appears as a standard at every grade level from 1 through high school. This session will address what algebraic thinking looks like at the elementary level, and why what happens in the elementary classroom is critical to the success of all students in future years. This session will also explore algebra in the middle school and the algebra content in the grade eight standards. Algebra is not just a course, it's an entire way of thinking and asking questions that spans grade levels.

- **Empowering Students Who Ask, "When Are We Ever Going to Use This Math?," Grades 6-12**

Date: Thursday, March 28, 2019 (Code: W-03-28-19)
Time: 9:00 am – 3:30 pm
Presenter: Robin Schwartz
Audience: Grade 6-12 Mathematics Teachers, Mathematics Supervisors

When Math is presented as a life skill that broadens career choice and inspires critical thinking, students embrace the learning of reasoning and problem-solving skills while building confidence and persistence. While many students will not major in science or engineering in college, all students benefit from the challenge and discipline of Math. This positive attitude can help teachers, administrators and students to meet the challenges of "teaching to the test" by viewing it as an opportunity to address common errors and misunderstandings without formally reviewing. In fact, the comparison of multiple-choice answers can help students to "think on their feet" while increasing accuracy, logic and frustration tolerance skills & assets in high school, college and the workplace. Worksheets will cover common secondary content incorporating HSPA and SAT content

(including algebra, geometry, trig and precalc) and will use multiple representations and technology to appeal to diverse learning styles creating a path to success for all.

- **Everyday Applications of Mathematics, Grades 8-12**

Date: Monday, April 29, 2019 (Code: W-04-29-19)

Time: 9:00 am – 3:30 pm

Presenter: Joseph G. Rosenstein

Audience: Grades 8-12 Mathematics Teachers, Mathematics Supervisors

We are all exposed to modern applications of mathematics every day – lotteries, weather forecasts, internet searches, social networks, credit card security, redistricting, reapportionment (after the 2020 census), optimal delivery routes, statistical charts, the list goes on and on – but we don't prepare our students to understand these applications because we focus on preparing them all for calculus, although 88% of them will not pursue STEM fields that require calculus. We also want our students to become problem-solvers and reasoners, since those skills are required in almost all professions, yet we instead focus on solving algebraic problems that are only useful for calculus. This session will focus on areas of mathematics that all of our students could use to help them navigate the modern everyday world.

- **Exploring Trigonometric Functions and the Unit Circle, Grades 9-12**

Date: Monday, April 22, 2018 (Code: W-04-22-19)

Time: 9:00 am – 3:30 pm

Presenter: Mark Russo

Audience: High School Mathematics Teachers, Mathematics Supervisors

In this interactive workshop we will explore how trigonometry beautifully brings together key ideas from algebra and geometry. We will explore how best to introduce and strengthen trigonometric concepts, and how classroom discourse, multiple representations, and productive struggle can be utilized to increase student engagement.

- **Flipping the Math Classroom, Grades 6-12**

Date: Friday, December 7, 2018 (Code: W-12-07-18)

Time: 9:00 am – 3:30 pm

Presenter: Jennifer Goforth

Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

Are you looking for ways to integrate technology in the classroom effectively? Do you want to increase the number of students completing homework? Then Flipping the Classroom may be a strategy you want to implement in your classes. This workshop will provide a framework for flipped learning- where students watch instructional videos for homework and do the practice in class.

- **Formative Assessment, Productive Struggle, and Student Discourse, Grades 6-12**

Date: Tuesday, February 19, 2018 (Code: W-02-19-19)

Time: 9:00 am – 3:30 pm

Presenter: Neil D. Cooperman

Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

Sitting quietly, taking careful and assiduous notes, and being abjectly attentive only works for about one-third of our students. Far more of our students can understand and retain the learning if they are engaged in a dynamic and interactive classroom environment. This session will explore techniques and strategies that will help you to transform your classroom, reduce your workload, and improve your students' results through enhanced pedagogical approaches that address the Mathematical Practices.

- **Geometry investigations with GeoGebra, Grades 9-12**

Date: Wednesday, April 17, 2019 (Code: W-04-17-19)
Time: 9:00 am – 3:30 pm
Presenter: Irina Lyublinskaya
Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

Come to learn how you can use GeoGebra in your classes from algebra to calculus. This free multi-platform software/APP will engage your students in dynamic explorations, problem solving, and doing math!

- **Get Smarter! Take the SAT or ACT!**

Date: Thursday, November 29, 2018 (Code: W-11-29-18)
Time: 9:00 am – 3:30 pm
Presenter: Robin Schwartz
Audience: High School Mathematics Teachers, Mathematics Supervisors

The speaker took the new SAT in May 2016 adding to her test experiences — ACT (2012), “old” SAT (2009) and “ancient” SAT (1980). These recent exam experiences helped her to relive studying and test taking, fill gaps in her education, and relate better to students’ experiences. Studying for the ACT/SAT helps students learn the content they need to successfully complete high school and/or avoid remediation. We will also discuss and profile examples of the SAT/ACT Math and show how improvement on these exams can help students (and adults alike) gain a new outlook and self-identity.

- **Intervention Strategies for Struggling Learners in Mathematics, Grades 6-9**

Date: Thursday, December 13, 2018 (Code: W-12-13-18)
Time: 9:00 am – 3:30 pm
Presenter: Irina Lyublinskaya
Audience: Grades 6-9 Mathematics Teachers, Mathematics Supervisors

In this workshop participants will learn about specific research-based recommendations to address the needs of struggling learners in math; discuss how to carry out each recommendation; review examples illustrating specific intervention strategies for different recommendations, and develop strategies based on these recommendations for teaching specific topics of middle and high school mathematics.

- **Is That Your Final Answer? Developing Mathematical Thinking with Questions, Grades 6-12**

Date: Friday, December 14, 2018 (Code: W-12-14-18)
Time: 9:00 am – 3:30 pm
Presenter: Robin Schwartz
Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

Asking questions such as “Is that your final answer?”, “How do you know?” and “Easy, Medium, Hard?” encourages students to increase their self-awareness along with their math confidence, performance, and comprehension. This workshop will include CCSS Standards especially #1 (make sense of problems and persevere in solving them) and #6 (attend to precision). We will design and demo inquiries using PARCC samples and other released items to inspire classroom dialogue, lesson plans and student learning.

- **Math Modeling, Grades 6-10**

Date: Monday, February 11, 2019 (Code: W-02-11-19)
Time: 9:00 am – 3:30 pm
Presenters: Jennifer Martins and John Kerrigan
Audience: Grades 6-10 Mathematics Teachers and Supervisors

This workshop will focus on strategies to infuse math modeling regularly into the math classroom. Incorporating math modeling into your daily routine motivates and engages students, provides them with

choice, and helps them make sense of problems taking abstract concepts and putting them into a finite model. You will leave this workshop with learning activities that you can implement into your classroom the very next day. Come spend the day and model with us.

- **Mathematical Activities for Above Grade Level Students, Grades 9-12**

Date: Tuesday, May 7, 2019 (Code: W-05-07-19)
Time: 9:00 am – 3:30 pm
Presenter: Ira Nirenberg
Audience: High School Mathematics Teachers and Supervisors

This workshop's focus is on the abstract. This is not a hands-on workshop. It is, rather, intended for students who enjoy mathematics, who need no motivation toward the subject, in short, the rare student. If you've had such a student in your class, you know it can be a daunting experience: How do I challenge this student? Go further in the curriculum? Use enrichment? Do a bit of both? In this workshop you'll be exposed to plenty of atypical mathematical ideas - should the student appear, you'll be prepared! This is not meant to be a tech class. There won't be much technology. This class is about mathematics, "pure" and not so simple. Course levels covered include mathematics ranging from algebra to calculus. Bring a graphing calculator, or something comparable.

- **Mathematics and Art: Perfect Together: Don't Teach Art Instead of Math, Teach Math with Art!, Grades 6-10**

Date: Tuesday, February 5, 2019 (Code: W-02-05-19)
Time: 9:00 am – 3:30 pm
Presenter: Judith T. Brendel
Audience: Grade 6-10 Mathematics Teachers and Supervisors

This hands-on workshop is designed for teachers of mathematics with or without any particular visual-arts skills. See what arts-integration looks and how it will improve your student's understanding of math concepts? Visual art activities, lessons, and projects: Experience: (1) simple projects done in your math class that will develop critical thinking skills; (2) activities that address relevant Math Process and Content Standards; (3) student success; see the increase in self-esteem and willingness to persevere; (4) problem solving creatively in pairs, groups or teams; (5) use of effective rubrics, and (6) online free-resources for use in class or at home. Participants are encouraged to bring a digital device such as a laptop or tablet.

- **Nothing But Desmos, Grades 8-12**

Date: Thursday, January 7, 2019 (Code: W-01-07-19)
Time: 9:00 am – 3:30 pm
Presenter: Eric Milou
Audience: Grades 8-12 Mathematics Teachers and Supervisors

Come enjoy this workshop on the free online graphing calculator desmos. We will explore all of its features from animating objects and functions, creating lessons and assessments and even exploring the link between art and math.

- **Precalculus Conference: Good Ideas in Teaching Precalculus and....**

Date: Friday, March 22, 2019 (Code: PRECALC-19)
Time: 8:30 am – 3:00 pm
Fee: \$175
Audience: Grades 9-14 Mathematics Teachers, Mathematics Supervisors

A dynamic, annual, one-day conference for teachers and supervisors of high school mathematics, now in its 31st year. Attend up to 4 sessions on diverse topics, plus a sharing session and plenary session. Take some really good ideas back to the classroom! For more information, see conference website –

- **Project Based Learning for Algebra Students, Grades 7-9**

Date: Friday, February 15, 2019 (Code: W-02-15-19)
Time: 9:00 am -- 3:30 pm
Presenter: Nicole Ealey
Audience: Grades 7-9 Mathematics Teachers and Supervisors

Thinking of new ways to implement inquiry based learning in your Algebra I classroom? This workshop will help to prepare Algebra I teachers to create and implement Project Based Learning in their classrooms. Project Based learning is a student centered pedagogy that involves a dynamic classroom approach in which it is believed that students acquire a deeper knowledge through active exploration of real-world challenges and problems. Participants will explore the 4C's-Collaboration, Communication, Creativity, and Critical Thinking and develop lessons and tools to implement these skills in their everyday teaching. This workshop is ideal for Algebra I teachers.

- **Reinventing & Reimagining the High School Mathematics Classroom, Grades 9-12**

Date: Tuesday, January 15, 2019 (Code: W-01-15-19)
Time: 9:00 am -- 3:30 pm
Presenter: Eric Milou
Audience: High School Mathematics Teachers and Supervisors

Today, it seems as if nearly everyone agrees that mathematics (especially high school math) needs to change. For far too long, mathematics has not worked for far too many students. Mathematics has not changed substantially in my lifetime, nor has it changed substantially for most students, teachers & schools. It is clearly an issue and it is time to discuss and make serious changes. This session will discuss realistic steps that the math community must take including creating math pathways for high school students and a focus on modeling tasks.

- **SAT and CCS, Grades 6-12**

Date: Thursday, January 17, 2019 (Code: W-01-17-19)
Time: 9:00 am – 3:30 pm
Presenter: Laura Champion
Audience: Grades 6-12 Mathematics Teachers and Supervisors

Gone are the days of "SAT words" and math strategies that have no connection to the school curriculum! The "new" SAT (as of March 2016) is very much aligned to the Common Core Standards. With increased emphasis on word problems in science and social studies contexts, the SAT offers well-written problems specifically designed to test skills that students will need in college and careers. See how you can use SAT problems and free test materials on the College Board website as resources in your classroom. Topics range from percents, ratios, and proportions to linear, quadratic, and exponential equations, to geometry and trigonometry. Please bring a charged laptop.

- **Simple Hands-on Activities for Sixth through Ninth Grade Math Students**

Date: Thursday, May 3, 2019 (Code: W-05-03-19)
Time: 9:00 am – 3:30 pm
Presenter: Ira Nirenberg
Audience: Grades 6-9 Mathematics Teachers, Mathematics Supervisors

It's been said that the definition of insanity is to keep doing the same thing over and over again but expecting different results. Ready to try something different? In this workshop, rather than beginning with definitions, formulas, and equations, we begin with hands-on activities that inspire those definitions, formulas, and equations. Let's stop putting the cart before the horse. Most middle and high school mathematics begins with an abstraction; we write down a ratio, and then go through some kind of mathematical manipulation (perhaps

we cross multiply) to arrive at an answer. We draw lines and begin talking about slope and intercept. We show students how to "solve" word problems. We give students formulas that appear out of the blue. How well have these approaches worked for you? If they haven't been as effective as you've wished, join us for something a bit different. Please bring a calculator!

- **Tips for Math Coaches, Math Supervisors, and Math Leaders, Grades K-12**

Date: Wednesday, November 28, 2018 (Code: W-11-28-18)

Time: 9:00 am – 3:30 pm

Presenter: Angelo DeMattia

Audience: Grades K-12 Mathematics Teachers, Mathematics Supervisors

How can Math teachers be supported on their journey to provide quality learning for their students? This workshop will help participants explore various support structures that will help attain the above goal. If you are new to math leadership, this session helps clarify this enormous task and helps to gain confidence as where to begin – especially in supporting teachers in the implementation of the mathematical practices and understanding the intent of conceptual understanding and how it supports retention and procedural fluency. If you are experienced, this session will help you rethink the menu and your training. Ultimately, you will improve as a knowledgeable practitioner, capable of using your extensive math understanding and teaching experiences to help children from varied cultural backgrounds become convincing mathematicians. Time will be reserved for sharing leadership dilemmas, solutions, and ideas, as well as examining effective math lessons.

- **Understanding Quadratics: Analyzing Data, Writing Equations, and Modeling with Technology, Grades 6-12**

Date: Friday, May 10, 2019 (Code: W-05-10-19)

Time: 9:00 am – 3:30 pm

Presenter: Kathleen Carter

Audience: Grades 6-12 Mathematics Teachers, Mathematics Supervisors

This session will analyze Quadratic Functions in its various representations to help students understand the characteristics of quadratic relationships. First, the behavior of quadratic number patterns will be analyzed to facilitate writing recursive and explicit formulas. Then, the characteristics of the graph of the parent function will be discussed as a foundation for the exploration of transformations. The different forms of the equations of quadratics will be compared for purposes of graphing and modeling quadratic relationships. The session will also demonstrate how the Desmos online graphing calculator can be incorporated to stimulate classroom discussion and analysis of quadratics. Modeling with quadratics using the graphing calculator and Desmos will be presented. Please bring a laptop or tablet to participate in the Desmos part of the presentation and a graphing calculator.

- **Using Data in a Mathematics Classroom to Drive Instruction, Grades 7-12**

Date: Thursday, February 21, 2019 (Code: W-02-21-19)

Time: 9:00 am – 3:30 pm

Presenter: Dianna M. Sopala

Audience: Grades 7-12 Mathematics Teachers and Supervisors

How can we use our formative assessments to drive instruction? In this workshop, participants will review some formative assessments that assist teachers in data analysis. Then they will use the data to readjust lessons. Participants must bring their laptops.

- **Using Technology in the Math Classroom, Grades 7-12**

Date: Wednesday, February 20, 2019 (Code: W-02-20-19)

Time: 9:00 am - 3:30 pm

Presenter: Dianna M. Sopala

Audience: Grades 7-12 Mathematics Teachers, Mathematics Supervisors

Participants will effectively integrate technology in the math classroom. We will explore Desmos, GeoGebra, Khan Academy, and other applications. Personalized learning is easier with technology. All participants should bring their charged laptops.

Registration Information

Payment Information

To encourage implementation at your school, we are offering discounts to schools or districts that send multiple registrations on a single purchase order and to individuals who sign up for four (4) or more workshops.

1-3 Workshop Registrations = \$205 each

4-9 Workshop Registrations (one or more individuals) = \$175 each (15% discount)

10 or more Workshop Registrations (one or more individuals) = \$155 (25% discount)

THERE IS A \$10 DISCOUNT FOR EACH ONLINE REGISTRATION

Workshop fees include all materials.

Payment may be made by purchase order or personal check; purchase orders and/or checks should be made out to **AMTNJ (Association of Mathematics Teachers of NJ)** and mailed to the address below. Admittance to the workshop may be denied if no payment method is submitted by the day of the workshop or if billing information is not completed.

Registration Information

You can register by:

Phone: (732) 788-1257 from Monday through Friday, from 9:30 a.m. to noon.

Online: <http://tinyurl.com/AMTNJ-DIMACS-2017-2018>

FAX: FAX Registration Form to (732) 399-5388, 24-hours a day.

Mail: Send Registration Form to:

AMTNJ/DIMACS K-12 Math Workshops
PO Box 264
Bay Head, New Jersey 08742

Please do not assume that your district is registering for you; they often fail to notify us that teachers are planning to attend. Please register with us and tell us that your district will be sending additional materials; we will then be able to send you a confirmation letter.

Once your registration is received, you will receive an email confirmation letter at least 10 days before your workshop; attached to this letter will be a map, directions, and parking information.

If you have not received a confirmation letter 10 days prior to your workshop, please call 732-788-1257 to confirm that your registration has been received and that the workshop will take place.

[Click here for Registration Form](#)

[Click here to Register Online](#)

Cancellation Policy

A full refund (minus a \$25 processing fee per registrant) will be issued to the appropriate party if this office is notified **in writing** at least five (5) business days prior to the workshop date. If you cancel within five (5) business days, or if neither you nor a substitute attend the workshop without notifying us, no refund will be issued.

All workshops are subject to cancellation for insufficient enrollment.

If you register less than one week before the conference, you may not be registered because of over enrollment or because the workshop has been canceled. Please contact our office to verify that your registration has been processed, that you are indeed registered, and that the workshop has not been canceled.

To obtain information about other programs, call 732-788-1257 or visit the AMTNJ website at <http://www.amtnj.org>