

For: Classroom Teachers, Special Educators, Department Heads, Team Leaders, Curriculum Coordinators, Principals, and Assistant Principals



Engage in Mathematics: Transformations as Functions



Featuring Presenter
Dr. Polina Sabinin

Wednesday, March 29, 2017
at the MSSAA Office, Franklin

Sign-In/Registration: 8:00 am to 8:30 am

Workshop: 8:30 am to 3:00 pm

Fees: Member \$195/Non-Member \$260

6 Professional Development Hours | PD Content Area: *Mathematics*

Transformations are arguably, the greatest change to Geometry content resulting from the Common Core State Standards. Viewing transformations as functions and models for motion is different from prior standards and different from how most teachers learned it in their teacher preparation programs. Changed also are the resulting definitions of congruence and similarity. It is important to deeply drill into the content behind this group of standards, to explore connections that result from viewing transformations as functions, and to find new tasks and activities, which engage children in this content. This workshop will explore hands-on activities and problems that offer students the opportunities to make sense of transformation as functions. Teachers will also examine the role of three of the Mathematics Teaching Practices (*Principles to Actions*, 2014) in teaching transformations as functions: Implement Tasks that Promote Reasoning and Problem Solving; Use and Connect Mathematical Representation; and Support productive struggle in learning mathematics. The presenter will share resources for teachers who would like to explore this topic further.

Participants will:

- Use engaging materials to explore transformation as functions.
- Use engaging materials to explore symmetry and congruence through the lens of transformations.
- Identify opportunities to make connections between geometric and algebraic concepts.
- Experience the “Standards for Mathematical Practice” and “Mathematical Teaching Practices” in action.

Dr. Polina Sabinin is an Assistant Professor of Mathematics at Bridgewater State University. She is a faculty fellow at the Office of Teaching and Learning at BSU. Through her outreach at the Center for the Advancement of STEM Education at BSU, Polina works with in-service and pre-service teachers at all grade levels. Polina is also the state director for the international Math Kangaroo Olympiad. Polina has served as the Associate Director of the Center for Mathematics Achievement at Lesley University. She is currently co-authoring *LogicGym*, a teacher’s manual that introduces students to logic through an engaging visual game. Polina earned her Bachelor of Science in biology with a minor in mathematics from the University of Calgary where she also earned a Master’s degree in oncology. Her doctorate research focused on mathematics education, specifically children’s development of algebraic and proportional reasoning.

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