

Math Circle Institute

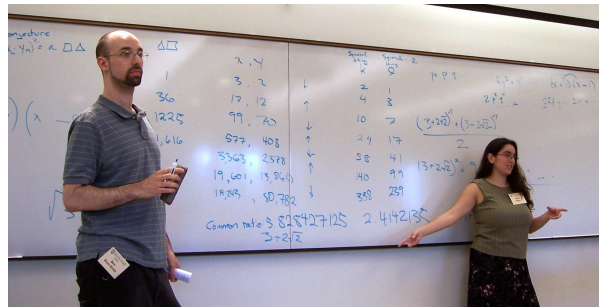
Jesse Johnson and Gwinn Royal

What happens when you put 30 mathematicians in a room for five days? Once started with a math problem, off we went, unstoppable, staying up way past our bedtimes, and eating our way through miles of cafeteria food.



Bob and Tammy use a convenient napkin to examine details of a mathematical argument

The annual Math Circle Teacher Training Institute is organized by Bob and Ellen Kaplan of the Boston Math Circle, along with Amanda Serenevy of the Riverbend Community Math Center. Bob and Ellen are a dynamic and passionate pair, brilliant in their mathematical knowledge and insightful in their approach to education. They believe that anyone can learn and love math. The Kaplans' philosophy involves "encouraging the students to better shape the questions we pose, . . . let[ing] their intuition loose in the search for insights, and . . . [working] collegially rather than competitively." The Kaplans teach and cultivate independence, authentic discovery, inquiry, and confidence in our abilities to figure out whatever we wonder about. They encourage invention and our own adaptation of the advanced math that genuinely interests us for our classes.



Ben and Alexa talk us through the twists and turns of their late-night conversation about triangular and square numbers

This year's participants were 27 teachers, engineers, tutors, programmers, principals, parents, philosophers, and 3 incredible high school students. Each day, we gathered to participate in, plan, and teach math circles. We articulated the big problems we see in education and collectively brainstormed some really powerful solutions. We observed each other teach, helped each other plan, solved problems together and debriefed about what we were learning. Late night gaming and philosophical discussions were inspired by the tremendous synergy that resulted from the daily math discussions and planning sessions. Over the course of one week, we tackled great problems (posing more than we could answer), taught 25 workshops to 50 kids on topics we prepared the day before, and talked about how to transform math education in our communities.

Since the workshop, many new math circles are in the works, from Portland, Oregon to Fairfax, Virginia. These new circles are targeting students of all ages and all ranges of mathematical ability and enthusiasm. Some are training new math circle facilitators, and reaching out to women, undergraduates, professional programmers, children and adults.



Jesse tackles a Rubik's Cube during a break

We are incorporating the math circle approach into our classrooms. We are attending, teaching and presenting at conferences. We are writing blogs, taking more math classes, studying new math on our own, forming study groups, editing and writing about math education. We're learning more about origami math. We are building and growing our online community.

And we can't wait for next year's math camp.