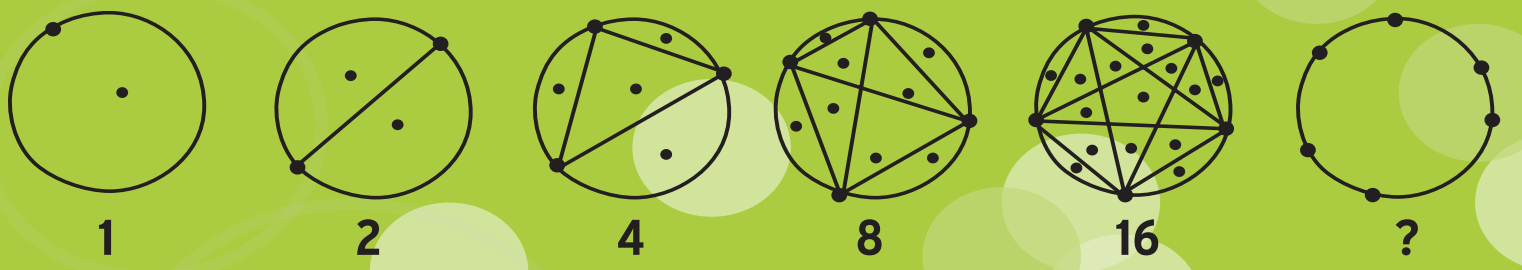
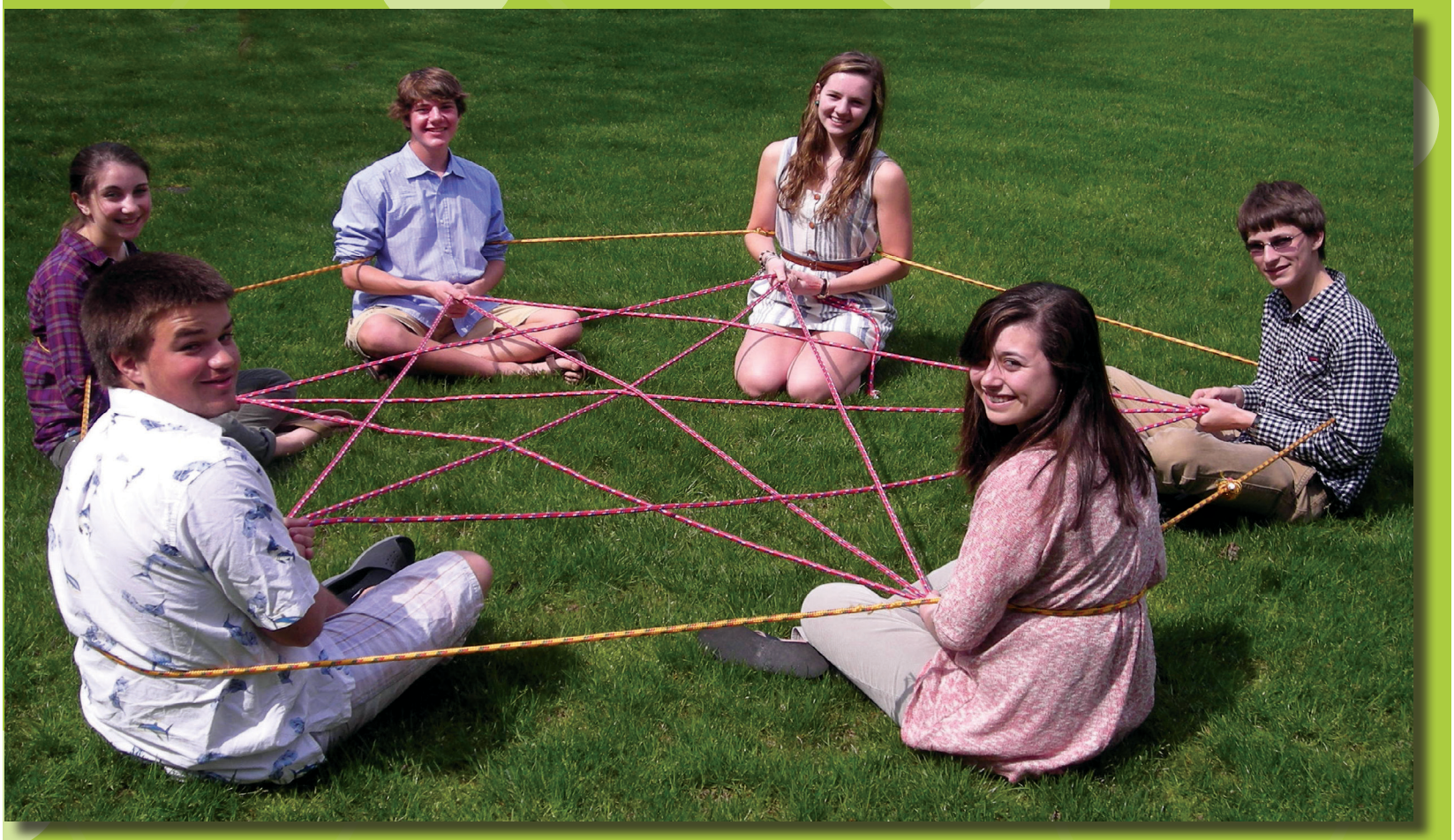
Connect with Math





J. Tanton

Start a Math Circle

SIGMAA on Math Circles for Students and Teachers

sigmaa.maa.org/mcst

Shaping Math Circles

More than a century ago in Hungary, experienced mathematicians took a problem-discussion approach with groups of youngsters, giving students the chance to regularly ponder and discuss material beyond the classroom. Such groups, called math circles, sprang up across Eastern Europe and have been credited as one reason the region dominates others in international student mathematics competitions.

The Boston Math Circle was founded in 1994; in September 1998, the Berkeley Math Circle was founded at the University of California at Berkeley, and the San Jose Math Circle followed the very next day at San Jose State University. But the intent of math circles is not only to boost U.S. competitiveness. It's more about helping students find and foster a passion for mathematics. In giving advice on how to attract kids to participate in math circles, the National Association of Math Circles Wiki (mathcircles.org/node/212) puts it this way, "It is more important for a student to be interested in math than accomplished at math."

"The best way to draw students into mathematics is to give them the actual experience of doing mathematics . . . working out examples and different methods of attack . . . doing all this in collaboration with other students," says Melanie Wood. "Math circles are the place they can have this experience." Wood is a Szego Assistant Professor at Stanford University and an American Institute of Mathematics Five-Year Fellow.

Math circles also can be made up of mathematics teachers. "Math teachers' circles are a perfect way for teachers and mathematicians to connect and work on mathematical problem solving together," says Brian Conrey, founding executive director of the American Institute of Mathematics (AIM) and one of the founders of the Math Teachers' Circles program. "By experiencing the beauty and creativity of mathematics themselves, teachers are inspired and empowered to share this experience with their students."

"One can always teach the grammar of mathematics, but math circles reveal its poetry," quips James Tanton, founding director of the St. Mark's Institute of Mathematics, a mathematical outreach program supported by St. Mark's School in Massachusetts.

—Lois M. Baron, MAA

Learn more about starting a math circle for your colleagues or for students by getting in touch with SIGMAA on Math Circles for Students and Teachers (MCST) at maa.org/sigmaa/circles.

Sample Problem

In an *n* x *n* grid of squares place *n* Xs and *n* Os so that one of each symbol appears in each row and in each column. Connect Xs and Os with vertical and horizontal line segments, with horizontal segments crossing under vertical segments. What is the smallest value of *n* for which a knot could result?

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