

Teacher Guide

BMC Issue: #46, Around Pi

Subjects: Geometry, Algebra

Grade Level: 4th grade and up

Topics: Circles, Squares

Lesson Aim/Objectives:

- Cut and rearrange a figure to make a square
- Construct a square given its perimeter as the circumference of a circle
- Determine area of a circle to compare to the area of a square
- Find the dimensions of a square from a circle
- Determine the path of the center of a hexagon rolling along a straight path

Common core standards:

Geometry 7.G

Draw, construct, and describe geometrical figures and describe the relationships between them.

HS Modeling with Geometry G-MG

Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).

Practices

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
4. Model with mathematics.

Materials:

- Print
 - BMC issue
 - Handouts
- Bring
 - Pencils
 - Any paper
 - Scissors
 - (Optional) String, graph paper

Instructions:

1. Read activities in newsletter
2. Register for BMC meeting to get Zoom link
3. Instruct students to consider the hosts as guests in the classroom.
4. Pass out a copy of newsletter to each student.
5. Tell student we encourage participation; they should share results, drawings, and ask questions. They can show their papers to the camera.

Notes:

- Test technology, if problems arise, please let hosts know.
- Use the recap issue to revisit problems in the classroom
- Provide feedback

Terms:

Geometry: circle, circumference, diameter, radius, area, square, hexagon, squaring a circle, Pi
Algebra: equation, square root, ratio, Pi