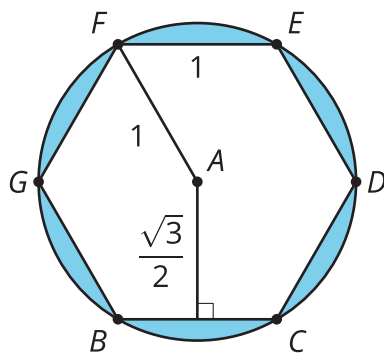
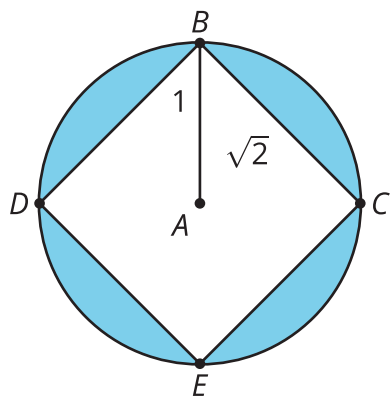


Unit 4 Lesson 11: Approximating Pi

1 More Sides (Warm up)

Student Task Statement



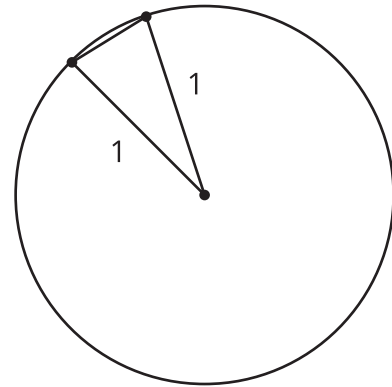
Calculate the area of the shaded regions.

2 N Sides

Student Task Statement

Here is one part of a regular n -sided polygon inscribed in a circle of radius 1.

Come up with a general formula for the perimeter of the polygon in terms of n . Explain or show your reasoning.



3 So Many Sides

Student Task Statement

Let's use the expression you came up with to approximate the value of π .

1. How close is the approximation when $n = 6$?
2. How close is the approximation when $n = 10$?
3. How close is the approximation when $n = 20$?
4. How close is the approximation when $n = 50$?
5. What value of n approximates the value of π to the thousandths place?

Images for Activity Synthesis

