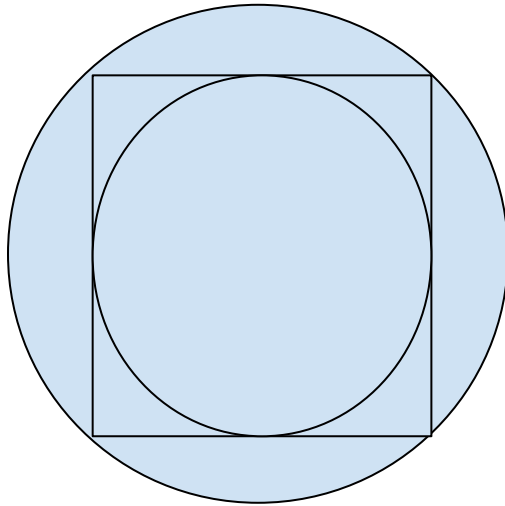


1. What is the area of a circle with diameter 2π ?
2. What is the sum of the interior angles in degrees of a regular dodecagon?
3. The angles of a pentagon are x , $2x-40$, $3x+10$, $2x$, and 50 degrees. What is the value of the smallest angle?
4. Two of the side lengths of a triangle are 4 and 21. How many integer values are possible for the third side of this triangle?
5. Suppose you are given a 5×5 grid of points, and you color each point such that no two directly adjacent points are of the same color. How many colors are needed to fully color the grid?
6. Find the area of the innermost circle in the following figure, if the outer circle has an area of 4π : assume that the figure only consists of circles and one square



7. What is the area of a square with the vertices $(-2, -1)$ and $(0, 1)$?
8. Let ABC be a triangle. Let D be the midpoint of side BC and let E be the perpendicular from B . If angle CAD equals angle $CBE = 30$, what is the measure of angle BAC ?

9. Michael and Akshay are racing their wheels. Michael's wheel is bigger and has a radius of 4, while Akshay's only has a radius of 3.5. However, Akshay is capable of moving his wheel at a speed of 6 revolutions per hour, while Michael can only move his at 5 revolutions per hour. If the track length is 1680π long, then how much time, in hours, will have passed between the first and second person finishing?
10. In a $10 \times 10 \times 10$ cube, I colored all six faces red. If I then cut up the cube into 1000 unit cubes, then what percent of the unit cubes will have an even (including 0) number of faces colored red?