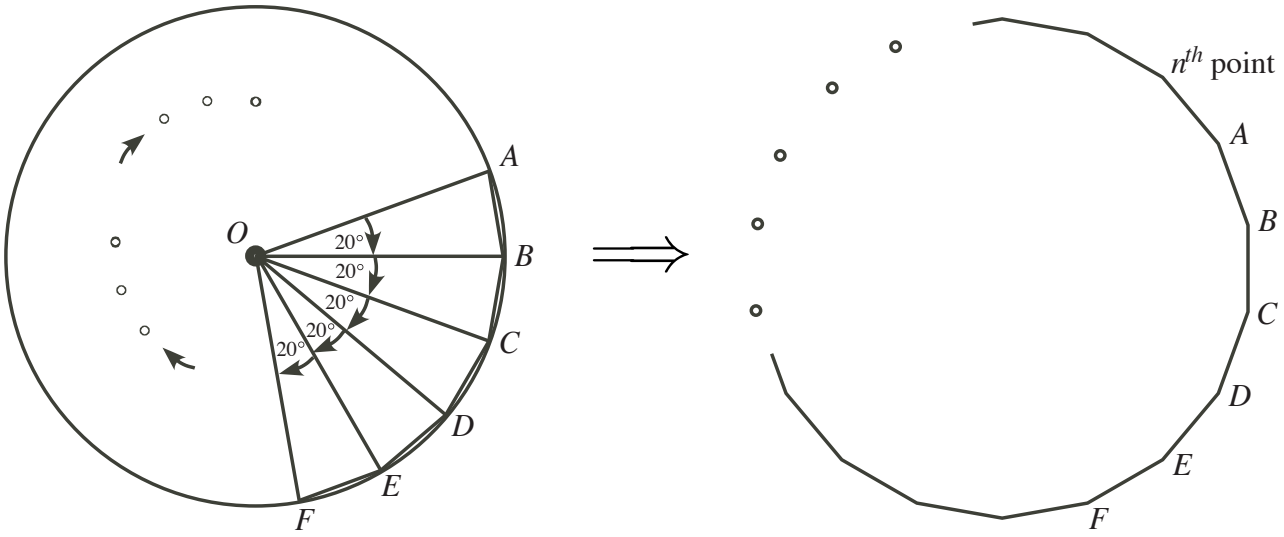
Problem of the Week

Problem C

Around We Go

A circle with centre O has a point A on the circumference. Radius OA is rotated $20°$ clockwise about the centre, resulting in the image OB. Point A is then connected to point B. Radius OB is rotated $20°$ clockwise about the centre, resulting in the image OC. Point B is then connected to point C.

The process of clockwise rotations continues until some radius rotates back onto OA. Every point on the circumference is connected to the points immediately adjacent to it as a result of the process. A polygon is created.



Construction Resulting Polygon

a) Determine the number of sides of the polygon.

b) Determine the sum of the angles in the polygon. That is, determine the sum of the angles at each of the vertices of the polygon.

Strands Geometry and Spatial Sense, Measurement