

7.6 Circular Reasoning

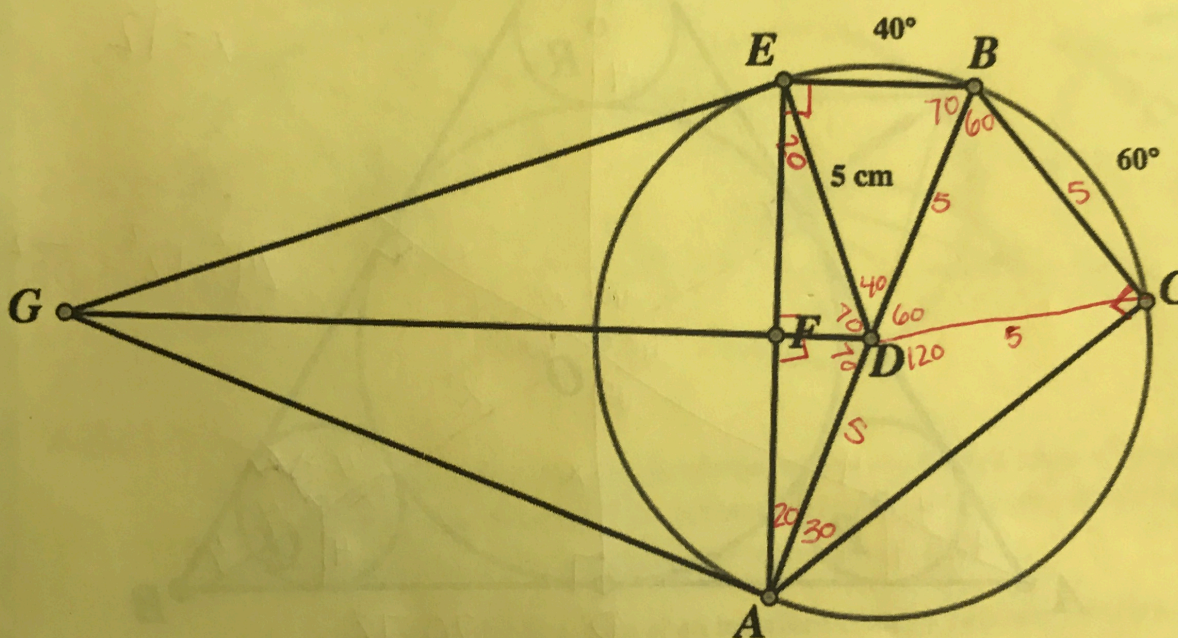
A Practice Understanding Task

The following problems will draw upon your knowledge of similarity, circle relationships and trigonometry.



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In the following diagram the radius of $\odot D$ is 5 cm and F is the midpoint of \overline{AE} . The measures of arc EB and arc BC are given in the diagram. Find the measures of all other unmarked angles, arcs and segments.



$$\overline{EA} = 9.396$$

$$\overline{EB} = 3.42$$

$$\overline{FD} = 1.71$$

$$\overline{FA} = \overline{FE} =$$

$$\overline{AC} = 8.66$$

$$\overline{FA} = 4.698$$

In the diagram below $\triangle ABC$ is equilateral. All circles are tangent to each other and to the sides of the equilateral triangle. The radius of the three smaller circles, $\odot P$, $\odot Q$ and $\odot R$, is 4 cm. The radius of $\odot O$ is not given. Find the circumference and area of each circle and the length of the sides of the equilateral triangle.

