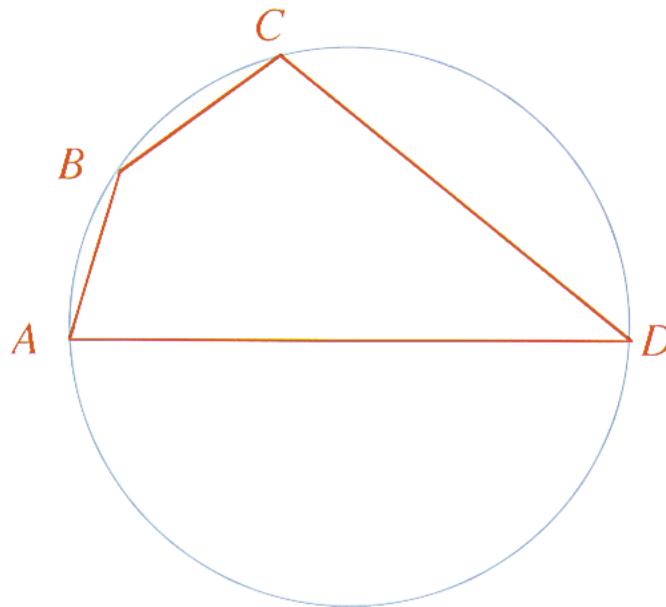


The Inscribed Quadrilateral

Problem-of-the-Week

The Problem

The quadrilateral $ABCD$ is inscribed in a circle with a radius of 12.5 cm. If $AB = 7$ cm, $CD = 20$ cm, and $AD = 25$ cm, find the length of BC .



Strategies and Hints

1. What is true of any *triangle* that is inscribed in a semicircle?
2. Find the lengths of segment BD and segment AC .
3. If you knew the cosine of $\angle BCD$, how would that help you solve the problem?
4. How is the cosine of $\angle BDC$ related to angles $\angle ADB$ and $\angle ADC$?

