

8.3

Lesson 8.3 (1)
Properties of Angles in a Circle

Math 9

May 23, 2019

May 29, 2015

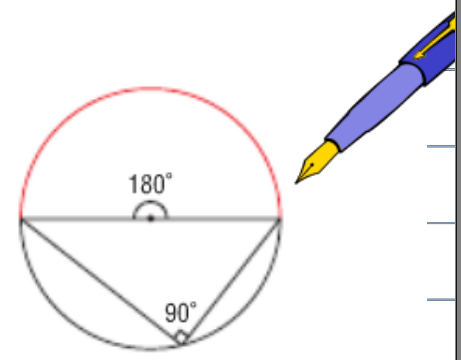
Mini Lesson #2:

TASK 1, 2 and 3

A soccer player attempts to get a goal. In a warm-up, players line up parallel to the goal line to shoot on the net. Does each player have the same shooting angle? Is there an arrangement that allows the players to be spread out but still have the same shooting angle?

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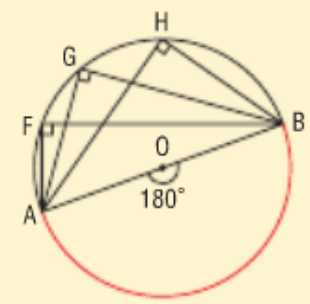
- The two arcs formed by the endpoints of a diameter are semicircles.
- The central angle of each arc is a straight angle, which is 180° .
- The inscribed angle subtended by a semicircle is one-half of 180° , or 90° .



Angles in a Semicircle Property

All inscribed angles subtended by a semicircle are right angles.

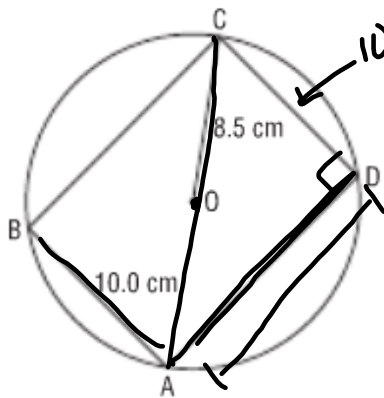
Since $\angle AOB = 180^\circ$,
 then $\angle AFB = \angle AGB = \angle AHB = 90^\circ$



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Example 2 Applying the Property of an Angle Inscribed in a Semicircle

Rectangle ABCD has its vertices on a circle with radius 8.5 cm.
 The width of the rectangle is 10.0 cm. What is its length?
 Give the answer to the nearest tenth.



10cm AC = 17 cm (8.5 x 2)

$$c^2 - a^2 = b^2$$

$$17^2 - 10^2 = b^2$$

$$289 - 100 = b^2$$

$$\sqrt{189} = b$$

$$b = 13.7 \text{ cm}$$

Apr 21-11:01 PM

End of mini lesson #2

Dec 17-8:20 PM