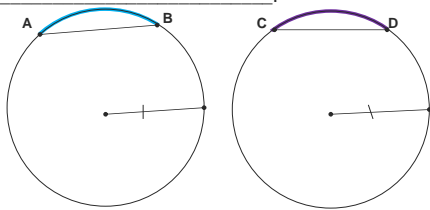


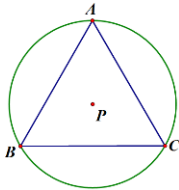
§9-3 Arcs & Chords

In the same circle, or in congruent circles, two minor arcs are _____ if and only if their _____



Example

- Find the measure of each minor arc created when an equilateral triangle is inscribed in a circle.



Since _____, we know _____

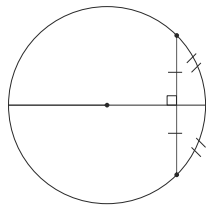
Likewise, since _____, we know _____

From yesterday, we know that _____



Theorem

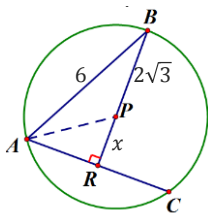
In a circle, if a diameter is _____ to a chord, then the diameter _____.



Example

- In $\odot P$, $\overline{AB} \cong \overline{AC}$.

Find the value of x to the nearest



Since _____, then _____.

According to the theorem, since _____ and it passes through the center (making it part of the diameter), _____.

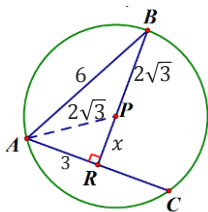
This means _____.

Both _____ are _____ so they're _____.

Example

- In $\odot P$, $\overline{AB} \cong \overline{AC}$.

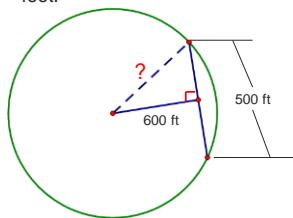
Find the value of x to the nearest



Then we can use the _____ to solve for x .

Example

- You discovered a crop circle in a nearby farm. A chord of the circle is 500 feet long and 600 feet from the center of the circle. Find the length of the radius to the nearest foot.

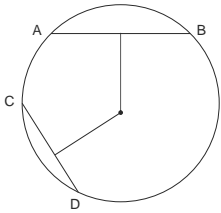


Since the distance from a point (the center) to a segment (the chord) is always the length of the _____ segment, we know that the _____ segment _____ the _____ segment.

Using the _____ theorem, we have _____.

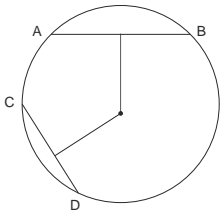
Theorem

In the same circle, or in congruent circles, two chords are _____ if and only if they are _____ from the _____



Theorem

In the same circle, or in congruent circles, two chords are _____ if and only if they are _____ from the _____



Example

- Prove this conditions of the theorem:
 - In a circle, if two chords are equidistant from the center, then they are congruent.

Given: $\odot D$, $\overline{DF} \perp \overline{EG}$, $\overline{DB} \perp \overline{AC}$, $\overline{DF} \cong \overline{DB}$
 Prove: $\overline{AC} \cong \overline{EG}$

