

Unit 6: Circles
Day 3 Circles and Arcs (PH 7-6)

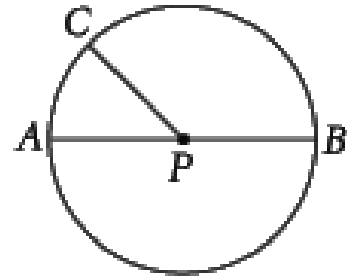
Name: _____
Date: _____ **Hour:** ____

A **circle** is the set of all points equidistant from a given point called the **center**. You name a circle by its center. Circle P is shown at the right. The symbol for this circle is $\odot P$.

A **radius** is a segment that has one endpoint at the center and the other endpoint on the circle.

Congruent circles have congruent radii.

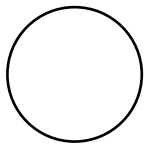
A **diameter** is a segment that contains the center of a circle and has both endpoints on the circle.



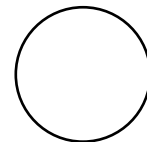
A **central angle** is an angle whose vertex is the center of the circle. $\angle CPA$ is a central angle.

Example 1: Name a radius, a diameter, and a central angle in $\odot P$ shown above.

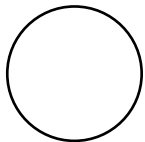
An **arc** is



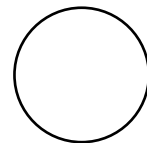
A **semicircle** is



A **minor arc** is



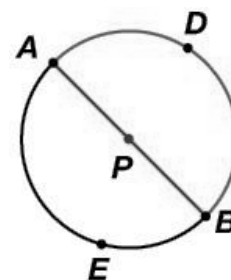
A **major arc** is



The measure of an arc is equal to the measure of its central angle.

Congruent arcs are arcs that have the same measure and are in the same circle or in congruent circles.

Example 2: Identify the minor arcs, major arcs, and semicircles in $\odot P$ with point A as an endpoint.



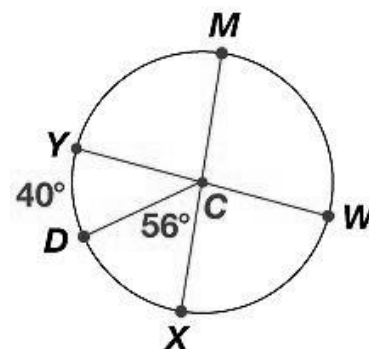
Postulate 7-1: Arc Addition Postulate

The measure of the arc formed by two adjacent arcs is the sum of the measures of the two arcs.



$$m\widehat{ABC} = m\widehat{AB} + m\widehat{BC}$$

Example 3A: Find $m\widehat{XY}$ and $m\widehat{DXM}$ in $\odot C$.



Example 3B: How could you find $m\widehat{MY}$? What is it?