

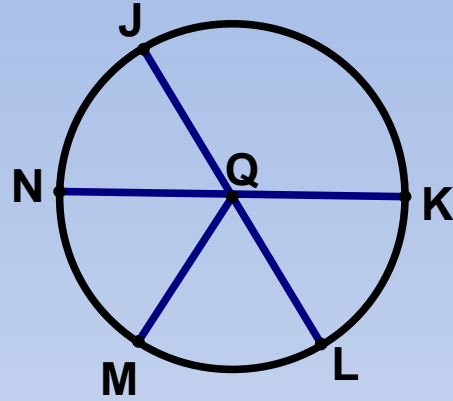
# WELCOME



# Warm-Up

1. Using Circle Q:

- a) Name a Radius.
- b) Name a Diameter
- c) Name two chords
- d) Name a Central Angle
- e) Name a Minor Arc
- f) Name a Major Arc



2. Factor:  $2x^2 + x - 10$

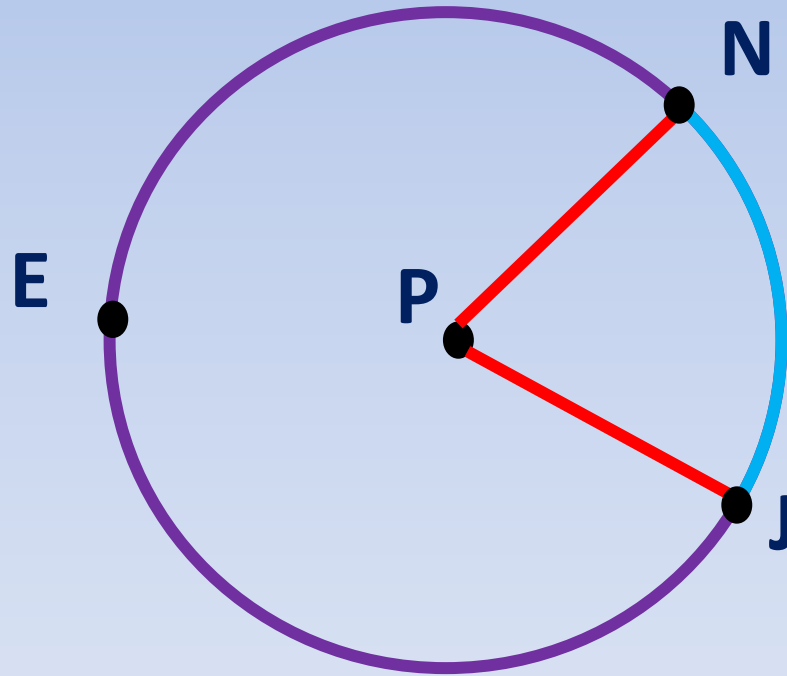
## Learning Target:

I can *calculate* the measures of arcs by using the Arc Addition Postulate, Inscribed Angles or Central Angles.

I can *prove* and *apply* the Parallel Lines-Congruent Arcs theorem.

# Measures of Arcs

Arcs are measured in degrees like angles. The measure of a given arc is equal to the measure of the central angle.

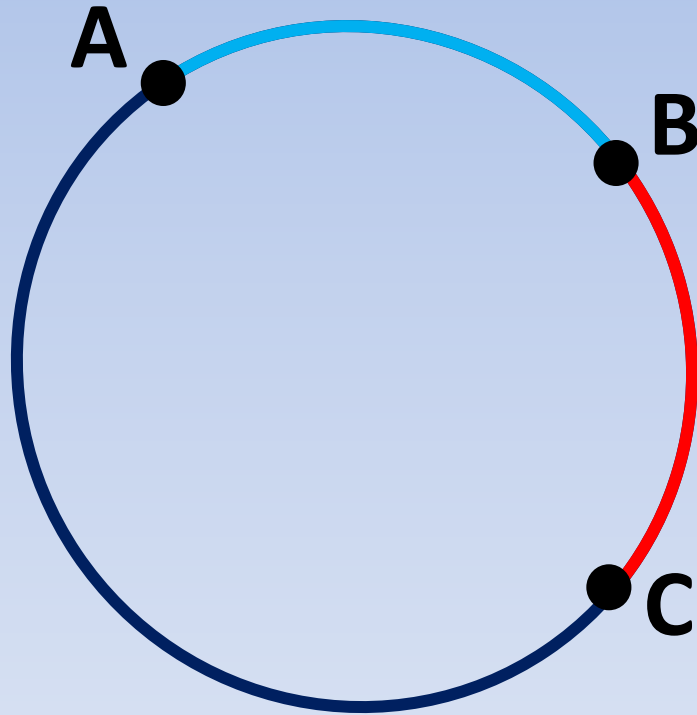


$$m\angle NPJ = m\widehat{NJ}$$

$$360 - m\angle NPJ = m\widehat{JEN}$$

# Arc Addition Postulate

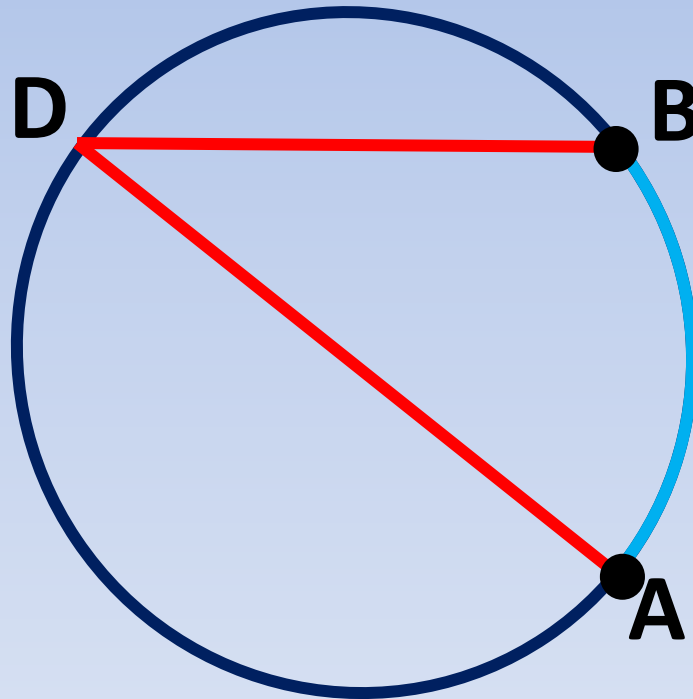
The measure of an arc is equal to the sum of adjacent arcs that it is made up of



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

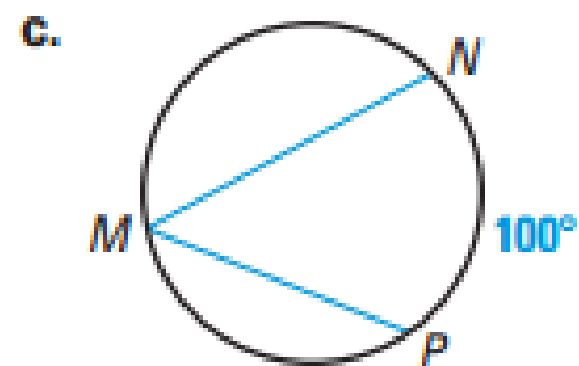
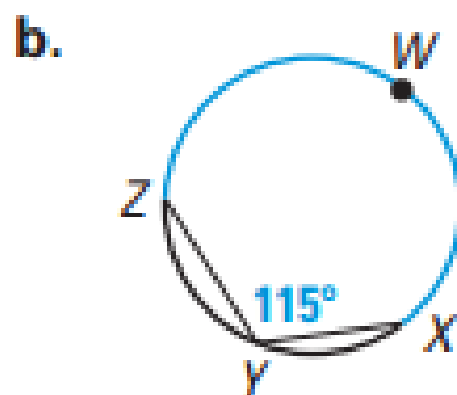
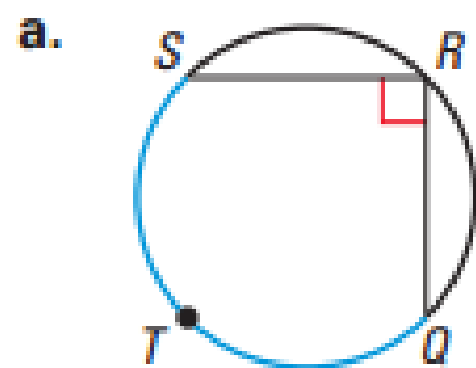
# Measure of Inscribed Angle

If an angle is inscribed in a circle, then its measure is half the measure of its intercepted arc.



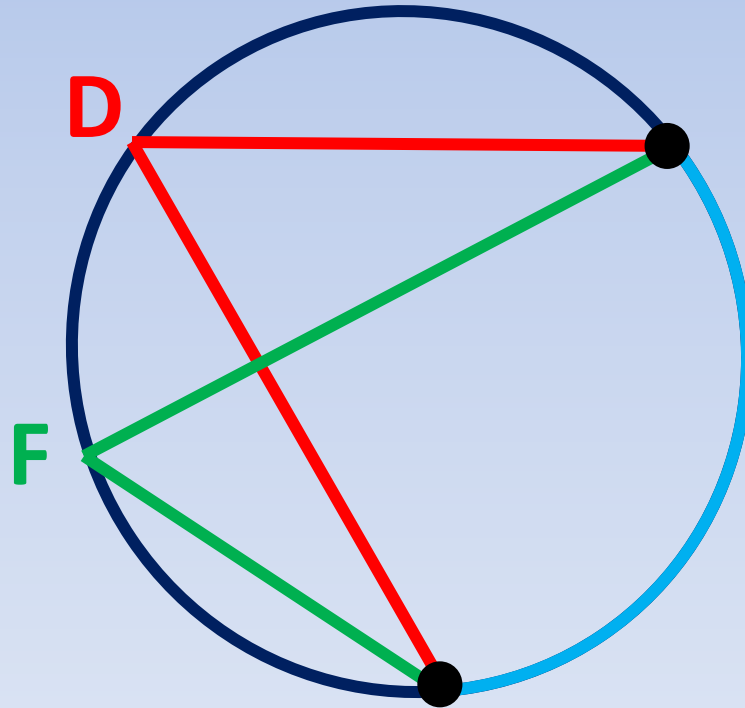
$$m\angle ADB = \frac{1}{2} m\widehat{AB}$$

Find the measure of the blue arc or angle.



# Equal Inscribed $\angle$ 's

If two inscribed angles of a circle intercept the same arc, then the angles are congruent.

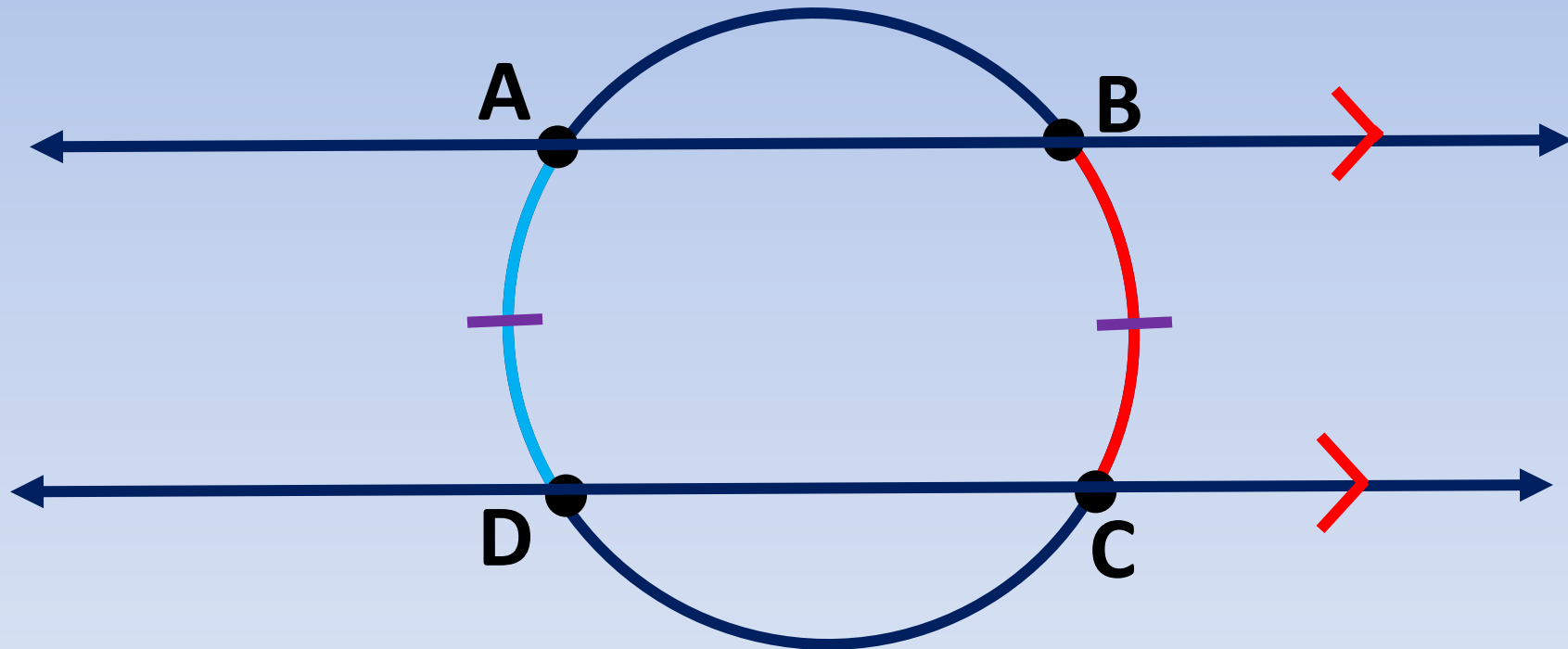


$$m\angle D = m\angle F$$



# Parallel Lines-Congruent Arcs Thm

If Parallel lines intercept a circle then they create congruent arcs on the circle



If  $\overline{AB} \parallel \overline{DC}$ , then  $m\widehat{AD} = m\widehat{BC}$