

## Circle Geometry Unit

### Angles formed by Intersecting Arcs

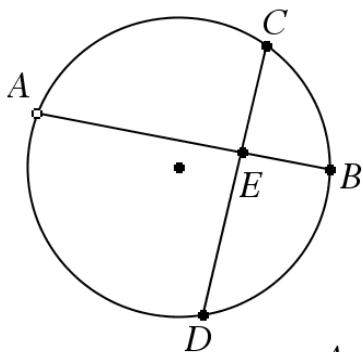
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When two chords intersect within the circle, angles are formed.

On the next page, chords  $\overline{AB}$  and  $\overline{CD}$  intersect at point  $E$ . Drag point  $A$  along the circumference of the circle. Notice the change in measures of the angles formed by the intersecting chords.

*AngleAEC=92°*

*AngleBEC=88°*



*AngleDEA=88°*

*AngleBED=92°*

**Question**

Why do the measurements not exist when point A is in certain locations?

**Answer**

There exists a rule connecting the measure of the angles formed by the intersecting chords and the intercepted arcs.

On the next page, there will be measurements of the intercepted arcs and the angles formed by the intersecting chords. Drag point A to try to discover the rule.

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$$\text{Angle } AEC = 85^\circ$$

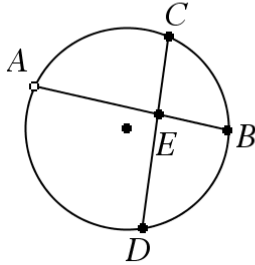
$$\text{Angle } BEC = 95^\circ$$

$$\text{Arc } AC = 90^\circ$$

$$\text{Arc } CB = 66^\circ$$

$$\text{Arc } BD = 80^\circ$$

$$\text{Arc } AD = 124^\circ$$



### Question

What is the relationship between the intercepted arcs and the angles formed by the intersecting chords?

### Answer

