



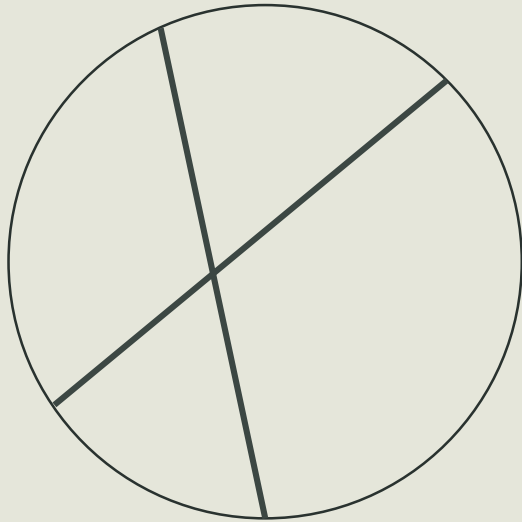
Circles – Modules 15.5

Materials: Notes
 Textbook

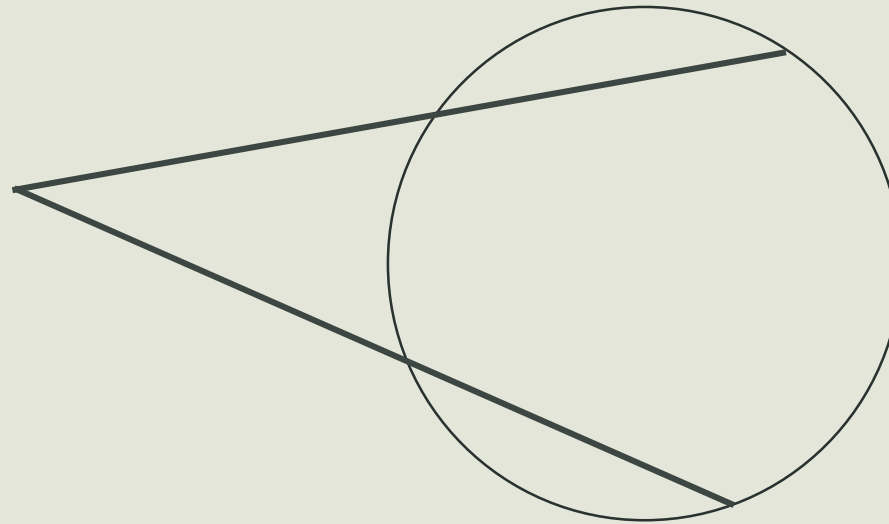
Module 15: Angles and Segments in Circles

Intersecting Chords and Secants, and their Angle Relationships

Intersecting chords:



Intersecting secants:



Module 15: Angles and Segments in Circles

Intersecting Chords

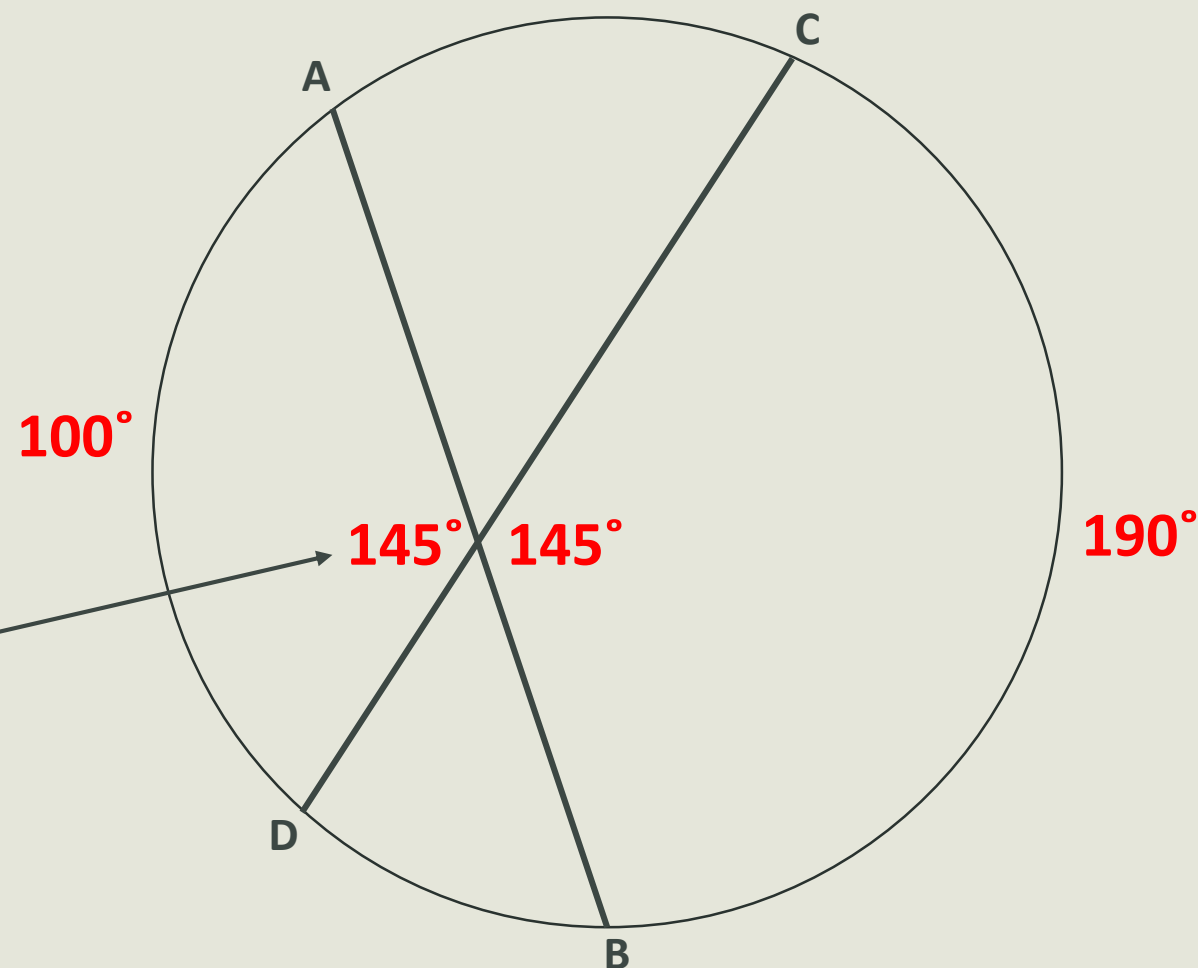
Intersecting chords create vertical angles whose measures are related to the chords they intercept:

The Intersecting Chords Angle

Measurement Theorem:

If two chords intersect, then the measure of each angle formed is the average of the measures of the two intercepted arcs.

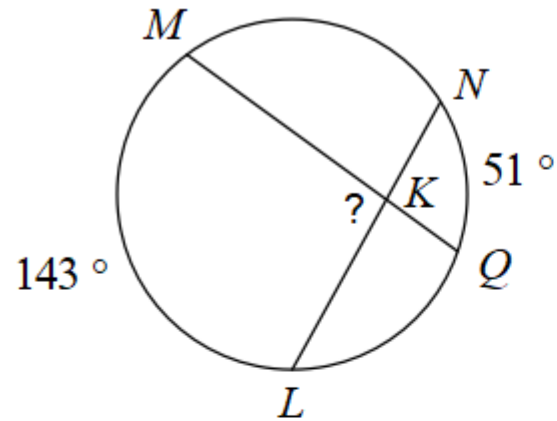
$$\frac{100^\circ + 190^\circ}{2} = 145^\circ$$



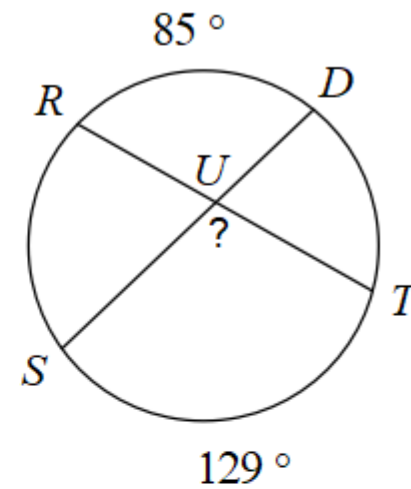
Module 15: Angles and Segments in Circles

Solve the following problems from your worksheet

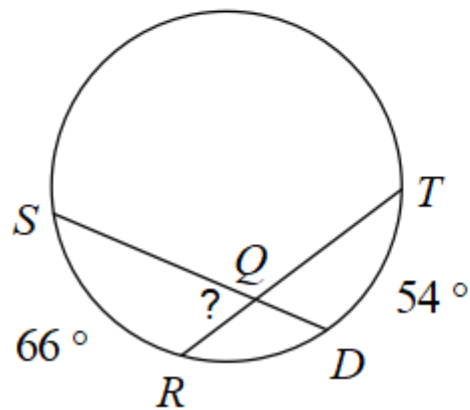
1)



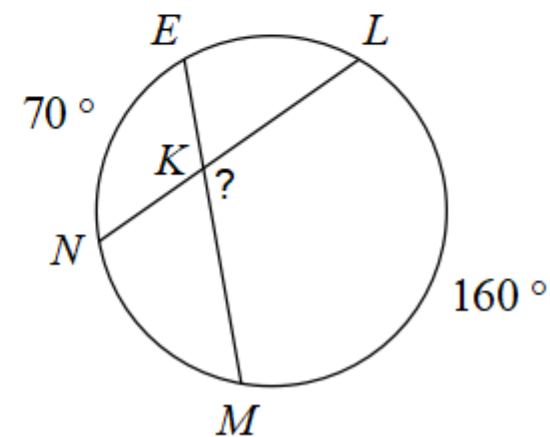
2)



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Module 15: Angles and Segments in Circles

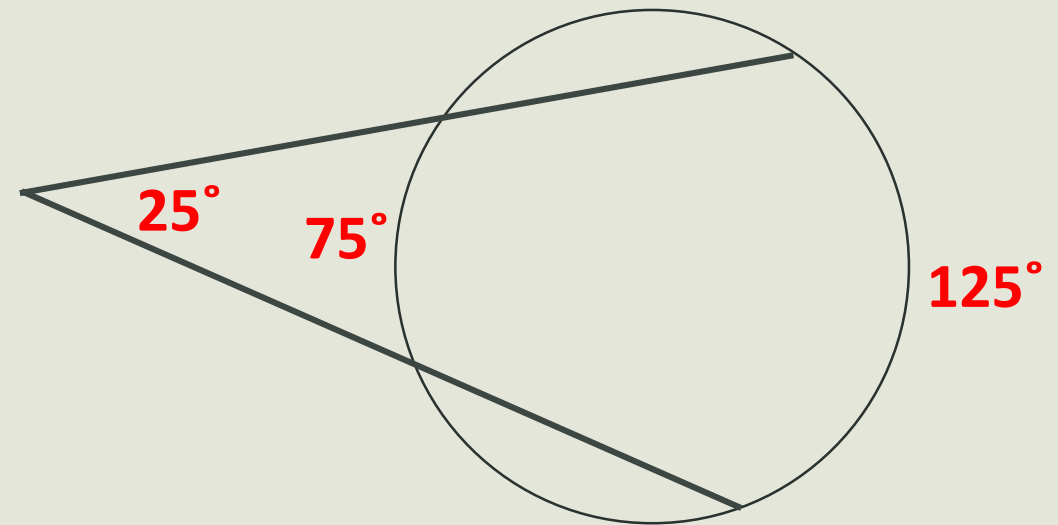
Intersecting Secants

The Intersecting Secant Angle

Measurement Theorem:

If two secants intersect, then the measure of the circumscribed angle is equal to $\frac{1}{2}$ the DIFFERENCE of the two intercepted arcs.

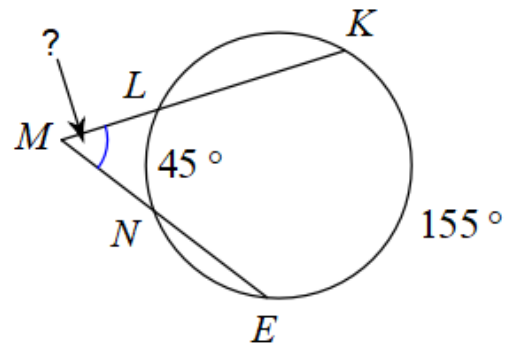
$$\frac{125^\circ - 75^\circ}{2} = 25^\circ$$



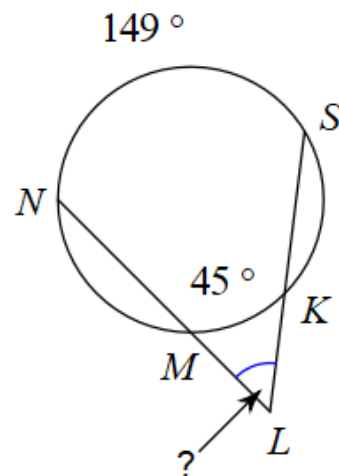
Module 15: Angles and Segments in Circles

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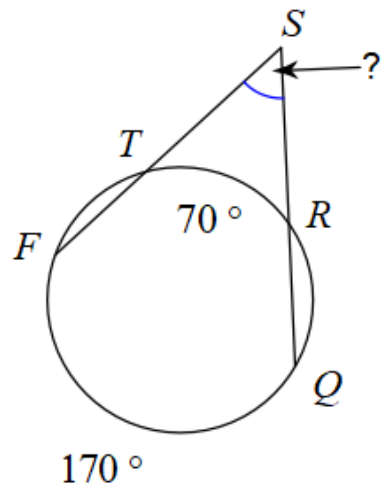
5)



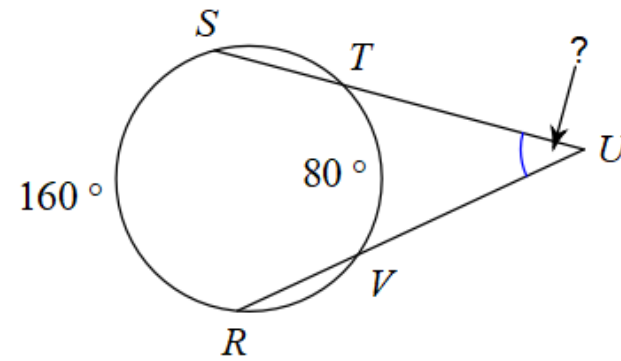
6)



7)



8)



Module 15: Angles and Segments in Circles

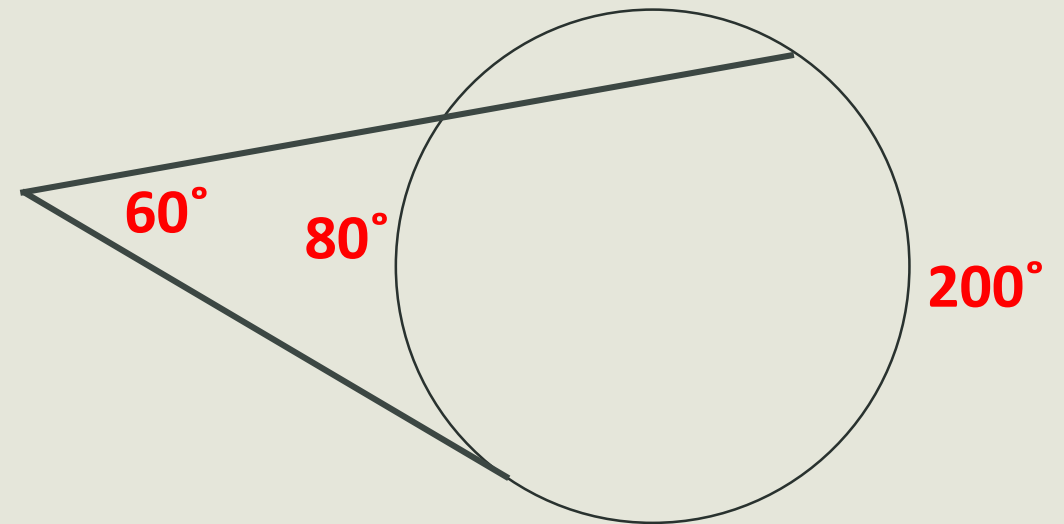
A Secant and a Tangent

The Intersecting Secant Tangent Angle

Measurement Theorem:

If a secant and a tangent intersect, the relationship is the same as the secant secant theorem: the measure of the circumscribed angle is equal to $\frac{1}{2}$ the DIFFERENCE of the two intercepted arcs.

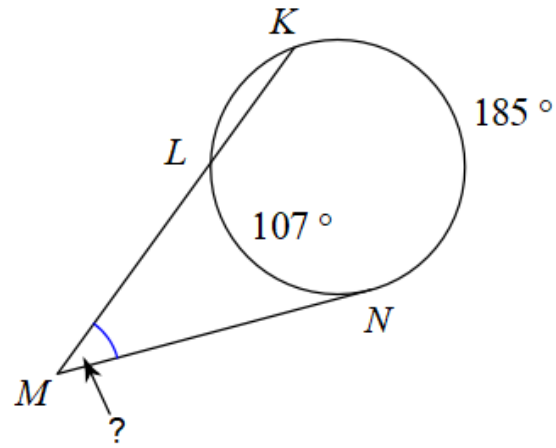
$$\frac{200^\circ - 80^\circ}{2} = 60^\circ$$



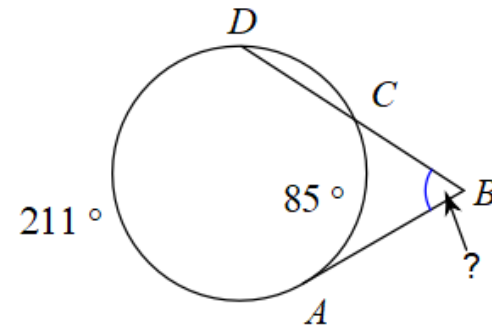
Module 15: Angles and Segments in Circles

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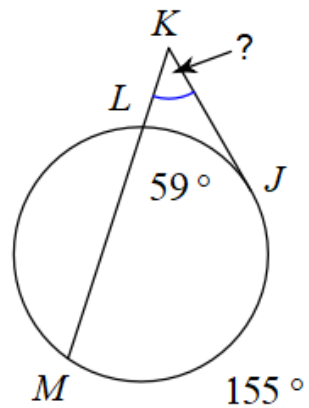
9)



10)



11)



12)

