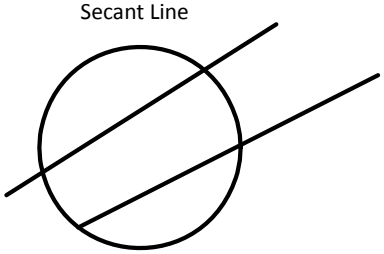
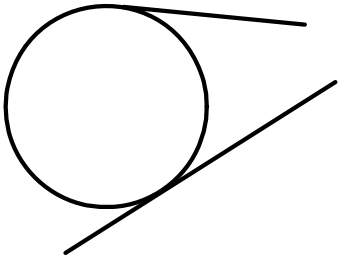
Secants, Tangents and Chords

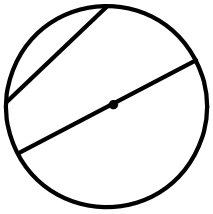
Secant Line



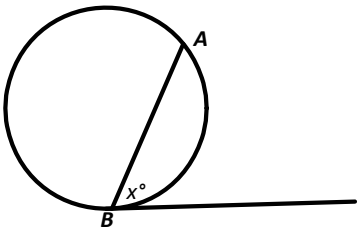
Tangent Line



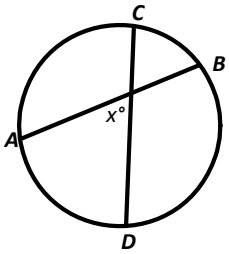
Chord



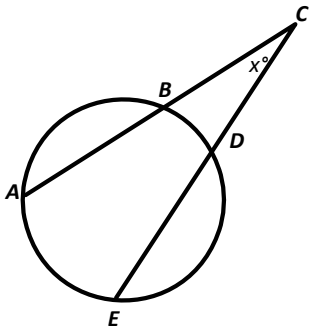
Angles formed by Secants, Tangents and Chords



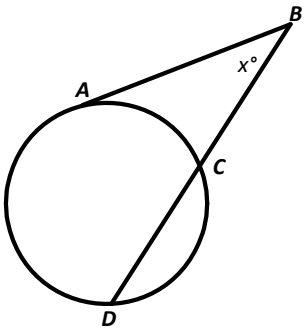
$$m\angle x^\circ = \frac{\overset{\frown}{AB}}{2}$$



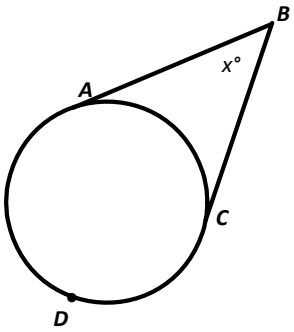
$$m\angle x^\circ = \frac{m\overset{\frown}{AD} + m\overset{\frown}{BC}}{2}$$



$$m\angle x^\circ = \frac{m\overset{\frown}{AE} - m\overset{\frown}{BD}}{2}$$



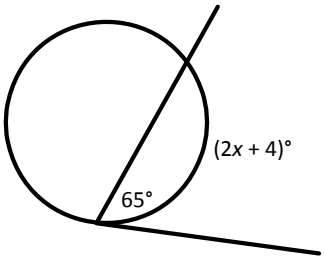
$$m\angle x^\circ = \frac{m\overset{\frown}{AD} - m\overset{\frown}{AC}}{2}$$



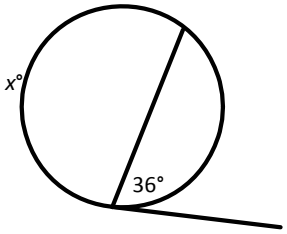
$$m\angle x^\circ = \frac{m\overset{\frown}{ADC} - m\overset{\frown}{AC}}{2}$$

1. Find the value of *x.*

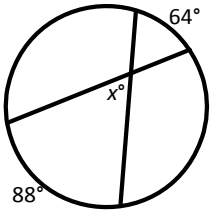
a)



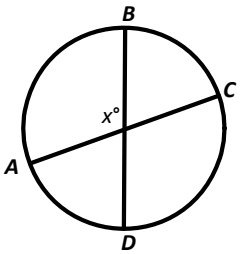
b)



c)

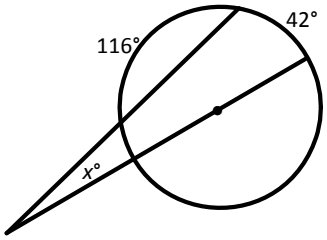


d)

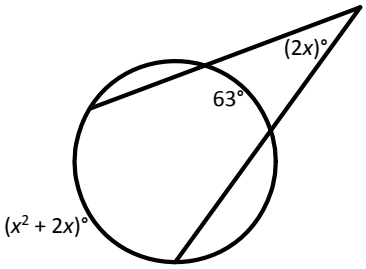


$\widehat{AB} : \widehat{BC} : \widehat{CD} : \widehat{DA} = 4 : 2 : 5 : 7$

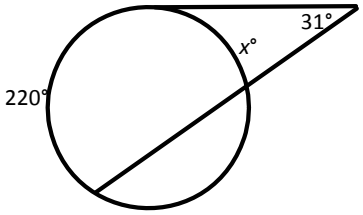
e)



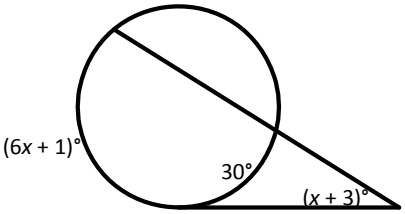
f)



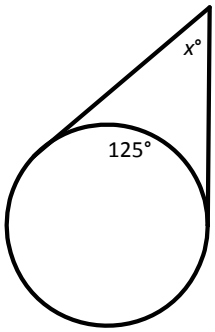
g)



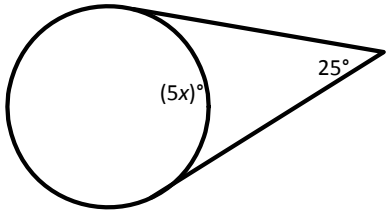
h)



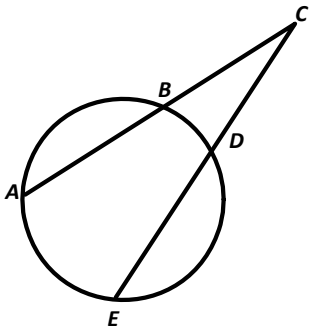
i)



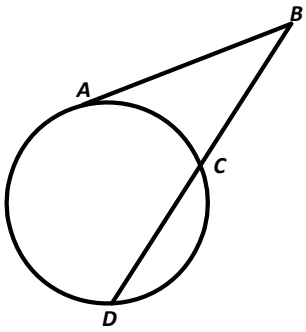
j)



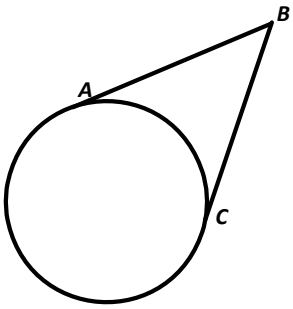
Segments formed by Secants, Tangents and Chords



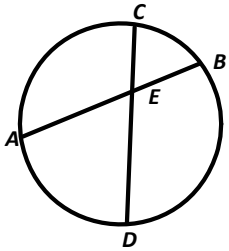
$CB \cdot CA = CD \cdot CE$



$AB \cdot AB = BC \cdot BD$



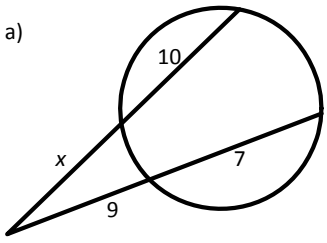
$AB = CB$



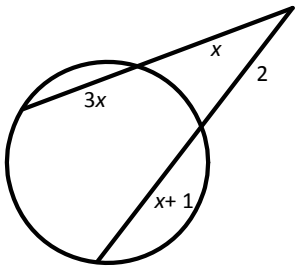
$AE \cdot EB = CE \cdot ED$

2. Find the value of *x*.

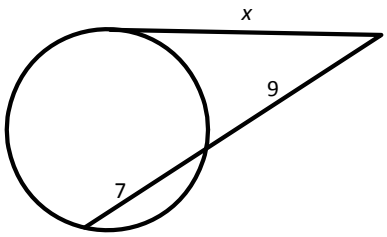
a)



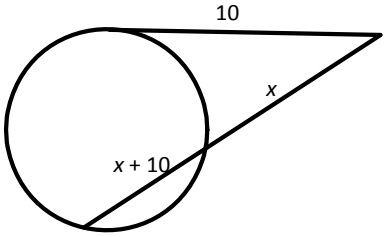
b)



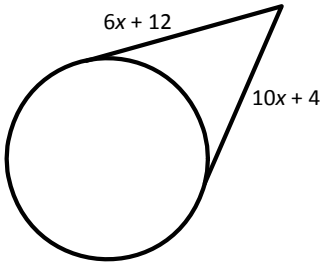
c)



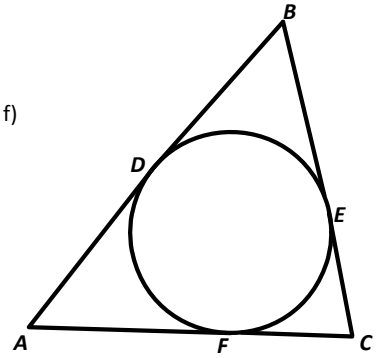
d)



e)



f)



$AB = 32$

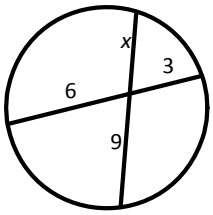
$BE = 20$

$EC = y^2$

$CF = 20 - y$

$AC = x$

g)



h)