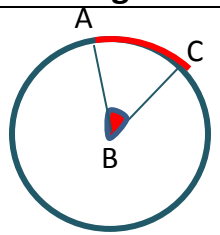
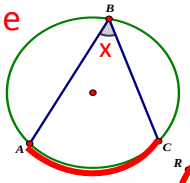
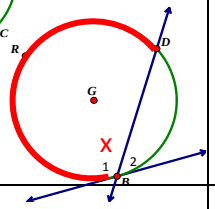
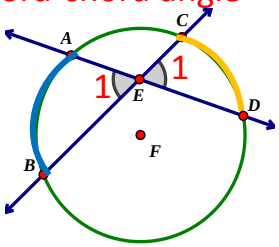
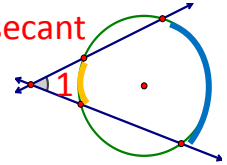
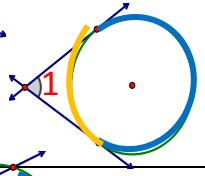
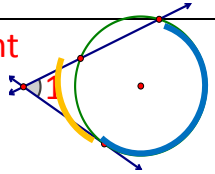
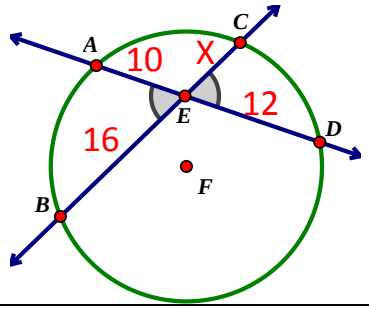
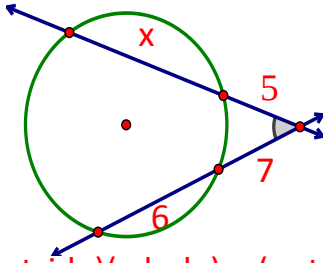
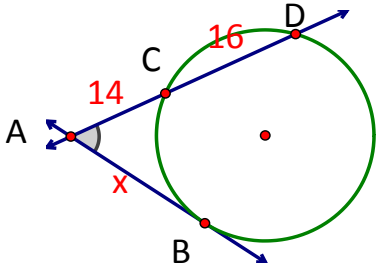
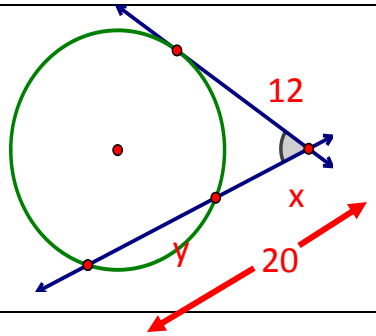
Geometry
Unit Five: Angles & Segments in Circles Graphic Organizer

Name: _____
Date: _____ Period: _____

Location of Vertex	Diagram	Method for Finding Angle Measures
CENTER	 Central angle formed by 2 radii	$m\angle ABC = m\widehat{AC}$ ∠ measure = intercepted arc measure
ON	Inscribed angle  Tangent-chord angle 	∠ measure = ½ intercepted arc measure Arc measure = twice ∠ measure
INSIDE	chord-chord angle 	∠ measure is the <u>average</u> of the 2 intercepted arcs (look at the original ∠ and it's vertical ∠ measure) $m\angle 1 = \frac{\widehat{AB} + \widehat{CD}}{2}$
OUTSIDE	Secant-secant  Tangent-tangent  Secant-tangent 	∠ measure is ½ the <u>difference</u> of the 2 intercepted arcs $m\angle 1 = \frac{\square - \square}{2} = \frac{big\ arc\ -\ small\ arc}{2}$

Location of Segment Intersection	Diagram	Method for Finding Segment Measures
INSIDE CIRCLE		* The product of the segments of the chords are equal (AE)(DE) = (CE)(BE) EX) (10)(12) = 16x 120 = 16x x = 7.5
OUTSIDE CIRCLE	 (outside)(whole) = (outside)(whole)	* The product of whole segments connecting the exterior angle to the circle and the exterior segment doing the same are equal. (AB)(AC) = (AE)(AD) EX) 5(x + 5) = 7(13) 5x + 25 = 91 x = 13.2
OUTSIDE CIRCLE	 (outside)(whole) = (tangent^2)	(AC)(AD) = (AB)(AB) (AC)(AD) = $(AB)^2$ EX) 14(14+16) = x*x $420 = x^2$ $x = \sqrt{420} = 2\sqrt{105} \approx 20.5$
OUTSIDE CIRCLE		EX) (12)(12) = x(20) 20x = 144 x = 7.2 y = 20 – 7.2 y = 12.8