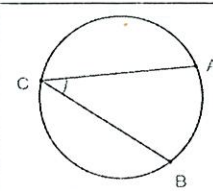
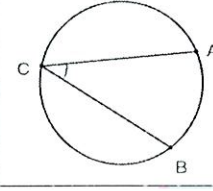


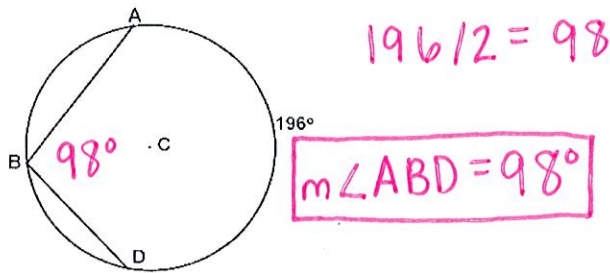
Name _____

Date _____

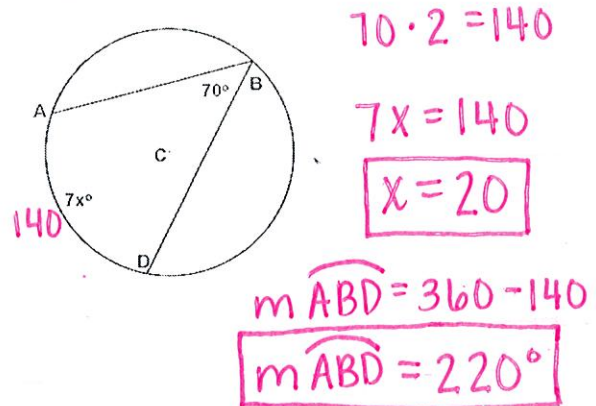
Day 2 – Inscribed Angles and Inscribed Quadrilaterals

Name	Definition	Measure	Picture
Inscribed Angle	An angle whose vertex is on a circle and whose sides contain chords of the circle	The measure of an inscribed angle is half the measure of its intercepted arc.	 $m\angle ACB = \frac{1}{2} m\widehat{AB}$
Intercepted Arc	An arc whose endpoints lie on the sides of an inscribed angle and all the points of the circle between them.	The measure of an intercepted arc is double the measure of the inscribed angle.	 $m\widehat{AB} = 2m\angle ACB$

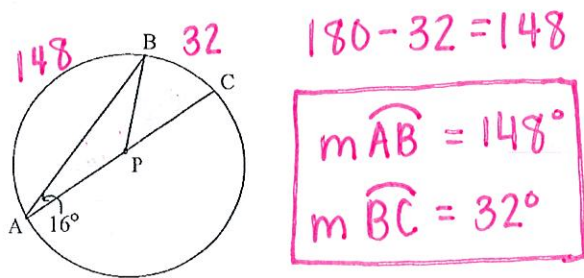
Example: Find the measure of angle ABD.



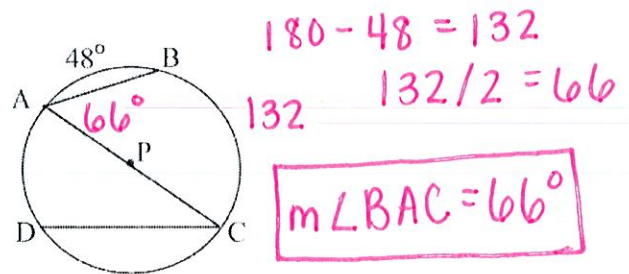
Example: Find the value of x and arc ABD.



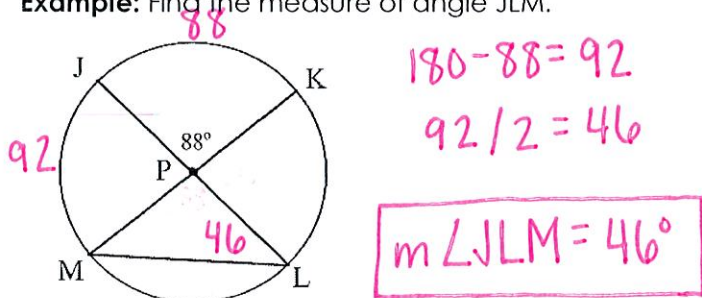
Example: Find the measure of arc AB and BC.



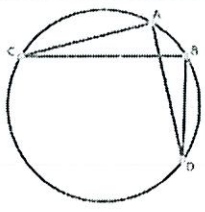
Example: Find the measure of angle BAC.



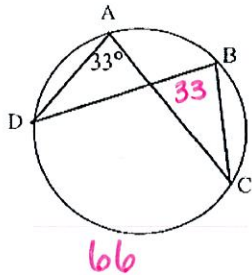
Example: Find the measure of angle JLM.



Intercepted Arcs

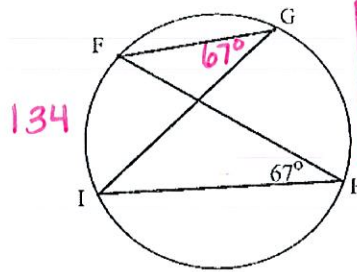
Name	Theorem	Hypothesis	Conclusion
Intercepted Arcs Corollary	If inscribed angles of a circle intercept the same arc, then the angles are congruent		IF $\angle CAD$ intercepts \widehat{CD} and $\angle CBD$ intercepts \widehat{CD} , then $\angle CAD \cong \angle CBD$.

Example: Find the measure of angle B.



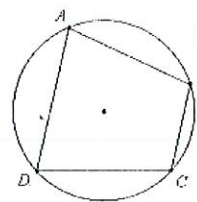
$m\angle B = 33^\circ$

Example: Find the measure of angle G and arc IF.

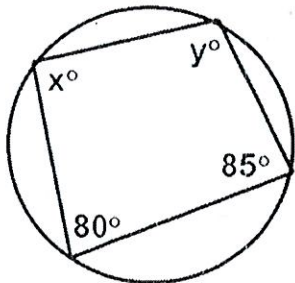


$m\angle G = 67^\circ$
 $m\widehat{IF} = 134^\circ$

Inscribed Polygons

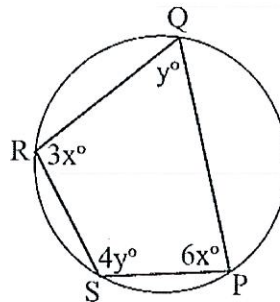
Name	Theorem	Hypothesis	Conclusion
Inscribed Polygons	A polygon whose vertices lie on the circle.	Opposite angles are supplementary.	 $m\angle A + m\angle C = 180^\circ$ $m\angle B + m\angle D = 180^\circ$

Example: Find the value of x and y.



$x = 180 - 85$
 $x = 95$
 $y = 180 - 80$
 $y = 100$

Example: Find the value of x and y.



$4y + y = 180$
 $5y = 180$
 $y = 36$
 $3x + 6x = 180$
 $9x = 180$
 $x = 20$

Example: Can this quadrilateral be inscribed inside a circle?

$34 + 146 = 180 \checkmark$
 $97 + 83 = 180 \checkmark$

yes, it can, the opposite angles are supplementary.

