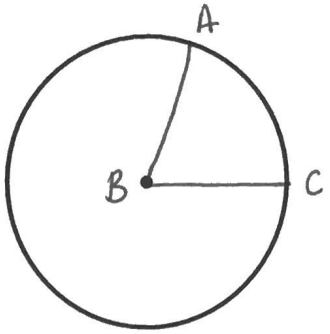
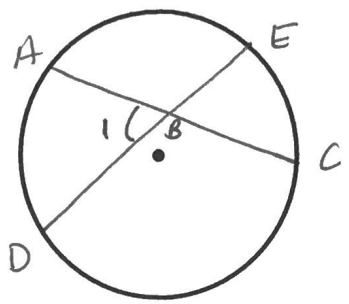
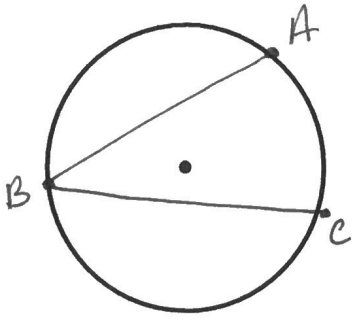
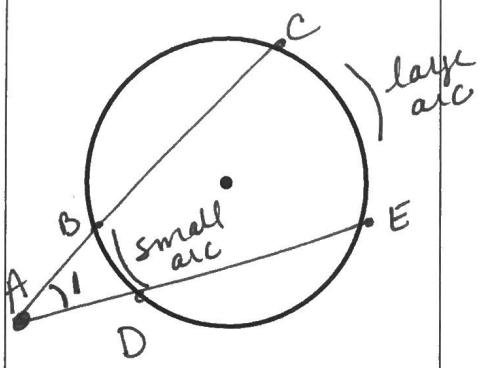
Angles and Arcs of a Circle Graphic Organizer:

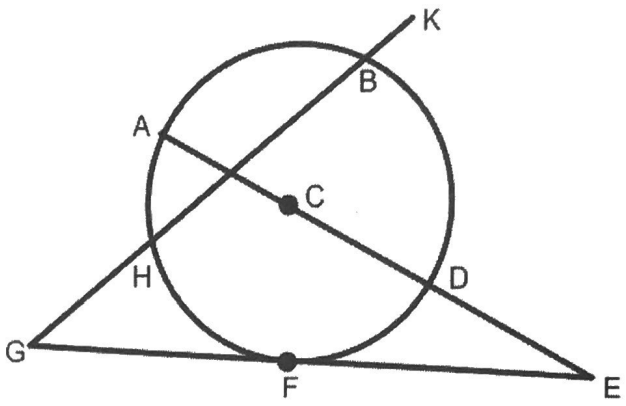
Location of the Vertex	Picture	Theorem
Inside the Circle • At the center Central ∠		$m\angle B = m\overset{\frown}{AC}$
• Not at the center Inside ∠ chords create linear pairs ↔		$m\angle 1 = \frac{\overset{\frown}{AD} + \overset{\frown}{EC}}{2}$ inside ∠ = $\frac{arc1 + arc2}{2}$
On the Circle Inscribed ∠		$m\angle B = \frac{1}{2}\overset{\frown}{AC}$ $m\overset{\frown}{AC} = 2(\angle B)$
Outside the circle Outside ∠		$m\angle 1 = \frac{\overset{\frown}{CE} - \overset{\frown}{BD}}{2}$ outside ∠ = $\frac{Large - Small}{2}$

Geometry
Circles Practice Quiz

Name Key
Date _____ **Block** _____

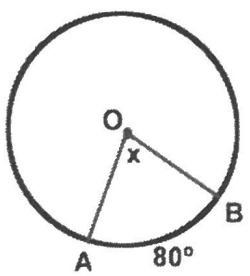
Use the diagram to the right to give an example of each of the following. Be sure to use proper notation.

1. Radius $\overline{CA}, \overline{CD}$
2. Diameter $\overline{AD}$
3. Chord (other than the diameter) $\overline{HB}$
4. Secant $\overleftrightarrow{HK}$
5. Tangent $\overleftrightarrow{GF}$
6. Point of Tangency F



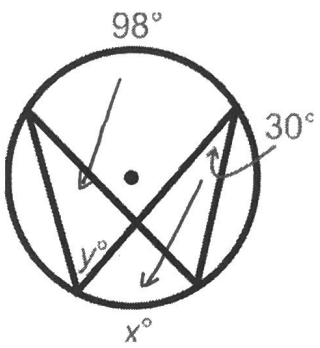
SHOW ALL WORK!!

7. Find the value of x.



$X = 80°$

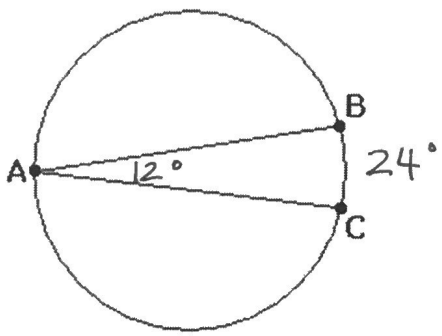
8. Find the value of x and y.



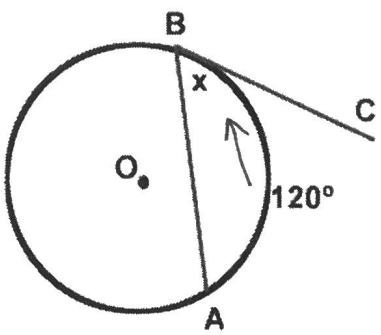
$X = 2(30) = 60°$

$y = 98/2 = 49°$

9. The $m\angle BAC = 12°$.
What is the measure of the intercepted arc BC?



10. Solve for $m\angle ABC$.

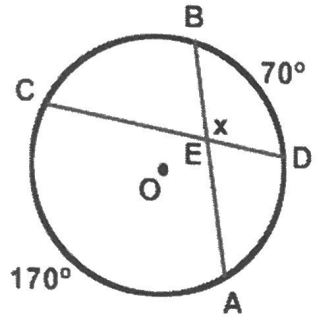


$120/2 = 60°$

Geometry
Circles Practice Quiz

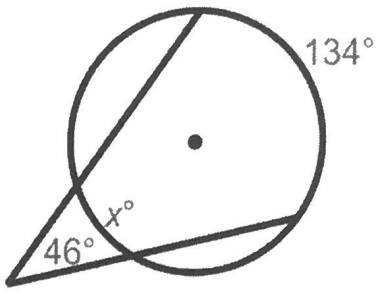
Name _____
Date _____ **Block** _____

11. Find the value of x.



$X = \frac{70+170}{2} = 120°$

12. Find the value of x.

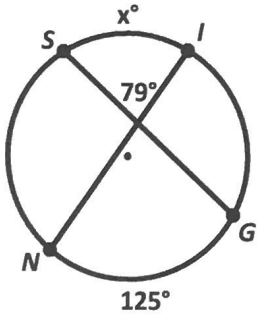


$46 = \frac{134 - X}{2}$

$92 = 134 - X$

$X = 42°$

13. Find the value of x.

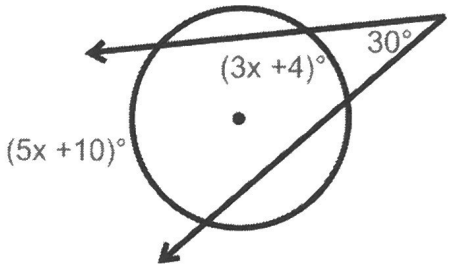


$79 = \frac{125 + X}{2}$

$158 = 125 + X$

$X = 33°$

14. Find the value of each arc.



$30 = \frac{(5x+10) - (3x+4)}{2}$

$60 = 2x + 6$

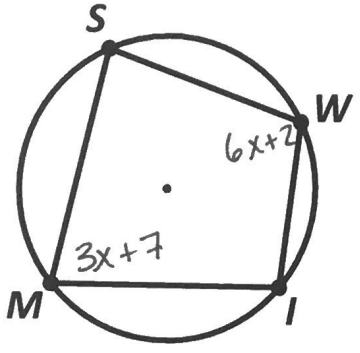
$2x = 54$

$x = 27$

$5(27)+10 = 145°$

$3(27)+4 = 85°$

15. Given: $m\angle SMI = (3x+7)^\circ$ *and* $m\angle IWS = (6x+2)^\circ$. Solve for x and $m\angle SMI$.



$3x+7+6x+2 = 180$

$9x+9 = 180$

$9x = 171$

$x = 19$