Lesson 11-7 Mixed Angles Practice

AGENDA:

- Check & Review Homework 11-6
- Warm Up & Fill in Graphic Organizer (Blue)
- Practice Problem
- Quiz
- Work independently on the rest of the problems

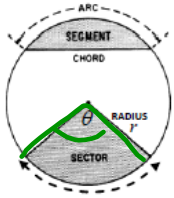
HOMEWORK:

- Finish the problems as worksheet 11-7

INTERIMS FRI

11-4

Central Angle Proportions: Sector Area / Arc Length / Radian Measure

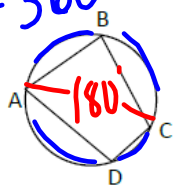


Sector Area	Arc Length	Radian Measure
$\frac{\theta^\circ}{360^\circ} = \frac{\text{SECTOR AREA}}{\text{AREA } \odot}$	$\frac{\theta^\circ}{360^\circ} = \frac{\text{ARC LENGTH}}{\text{CIRCUMF } \odot}$	$\frac{\theta^\circ}{360^\circ} = \frac{\theta \text{ RADIANS}}{2\pi \text{ RADIANS}}$

Other Geometric Relationships in a Circle:

- Arc Addition Postulate: Example $\overset{\frown}{mAB} + \overset{\frown}{mBC} + \overset{\frown}{mCD} + \overset{\frown}{mDA} = 360^\circ$
- In an inscribed quadrilateral in a $\odot$, opposite $\angle$'s are SUPPLEMENTARY.

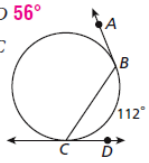
Example: $m\angle A + m\angle C = 180^\circ$



Homework 11-5 P. 787 #16-20,23,24,25,27,28,31-33

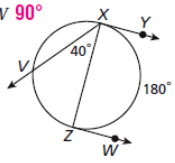
16. $m\angle BCD$ 56°

17. $m\angle ABC$ 124°

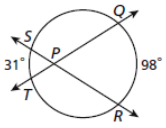


18. $m\angle XZW$ 90°

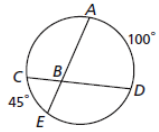
19. $m\overset{\frown}{XZV}$ 260°



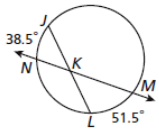
20. $m\angle QPR$ 64.5°



21. $m\angle ABC$ 107.5°

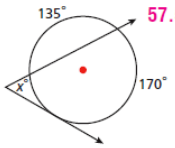


22. $m\angle MKJ$ 135°

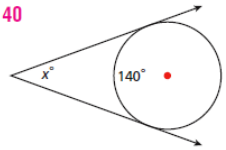


Find the value of x.

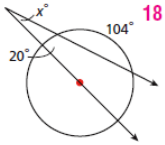
23. 57.5



24. 40

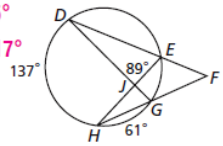


25. 18



27. $m\overset{\frown}{EG}$ 45°

28. $m\overset{\frown}{DE}$ 117°

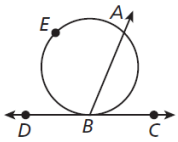


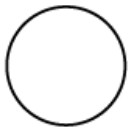
In the diagram, $m\angle ABC = x°$. Write an expression in terms of x for each of the following.

31. $m\overset{\frown}{AB}$ $2x°$

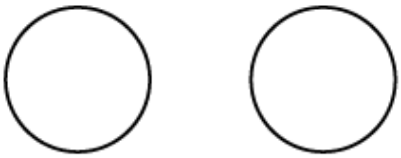
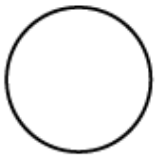
32. $m\angle ABD$ $(180 - x)°$

33. $m\overset{\frown}{AEB}$ $(360 - 2x)°$



Angle and arc Relationships	Outside circle
Example	
∡ Name	
∡ rays are	
Measurements relationship	$m\angle = \frac{1}{2}(m\mathit{large} - m\mathit{small})$ Angle measure = ½ difference of arcs

Graphic Organizer (front)

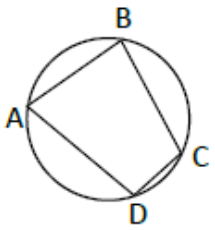
	∡ Vertex is located:	
	On circle	Inside circle
		
∡ Name		Interior
∡ rays are	Chords/secants/(1 tangent) sharing an endpoint	
Measurements relationship		

	Center of circle
	
∡ Name	
∡ rays are	
Measurements relationship	

Graphic Organizer (front)

In an inscribed quadrilateral in a ⊙, opposite ∡'s are _____.

Example: _____



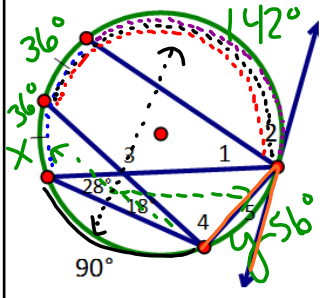
Graphic Organizer (back)

Inscribed Angles	• If an ∡ is inscribed in a semi circle →it is a right ∡	
	• If two inscribed ∡'s intercept the same arc → the ∡'s are ≅	
	• If two inscribed ∡'s intercept ≅ arcs → the ∡'s are ≅	
	• If a quadrilateral is inscribed in a circle → Opposite ∡'s are supplementary	

- **Be sure your Graphic Organizer is complete for Angle-Arc Relationships.**

Try the following, finding the measures of all numbered angles. Lines that appear to be tangents and chords that appear to be diameters are.

Example:



ARC ADD: $360° - (36° + 36° + 90° + 56°)$

INSCRIBED ∠: $18° = \frac{1}{2}\overset{\frown}{x}$

$36° = x$

$28° = \frac{1}{2}\overset{\frown}{y}$

$56° = y$

INSCRIBED

$m\angle 1 = \frac{1}{2}\overset{\frown}{72°}$

$m\angle 1 = 36°$

$m\angle 2 = \frac{1}{2}\overset{\frown}{142°}$

$m\angle 2 = 71°$

∠3 INTERIOR

$m\angle 3 = \frac{1}{2}(178° + 90°)$ OR Δ sum w/ VERTICAL ∠

$= \frac{1}{2}(268)° = 134° = m\angle 3$

"INSCRIBED"

$m\angle 5 = \frac{1}{2}\overset{\frown}{y}$

$= \frac{1}{2}(56°)$

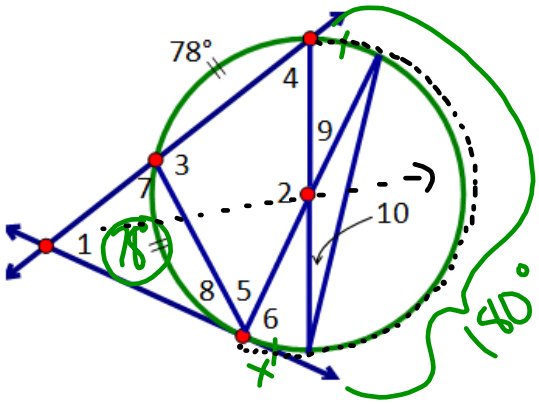
$m\angle 5 = 28°$

$m\angle 4 = \frac{1}{2}\overset{\frown}{178}$

$m\angle 4 = 89°$

INSCRIBED

Practice:



EXTERIOR:

$m\angle 1 = \frac{1}{2}(204° - 78°)$

$= \frac{1}{2}(126°)$

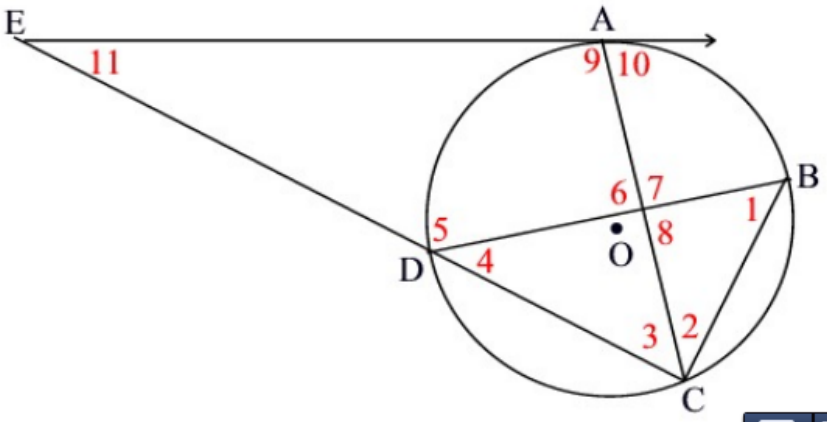
$m\angle 1 = 63°$

$360° - (180° + 78° + 78°)$

$24° = x$

Circle O with no diameters shown. $\overrightarrow{EA}$ is tangent at point A.

$$m\overset{\frown}{AB} : m\overset{\frown}{BC} : m\overset{\frown}{CD} : m\overset{\frown}{DA} = 3:3:4:5$$



m∠1 _____ m∠6 _____

m∠2 _____ m∠7 _____

m∠3 _____ m∠8 _____

m∠4 _____ m∠9 _____

m∠5 _____ m∠10 _____

m∠11 _____