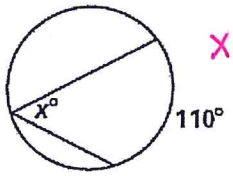
Inscribed Angles

Key

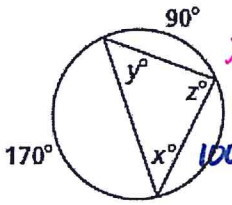
Find the value of each variable.

4.



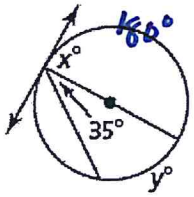
$x = 55^\circ$

5.



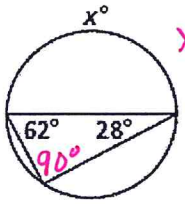
$x = 45^\circ$
$y = 50^\circ$
$z = 85^\circ$

C **6.**



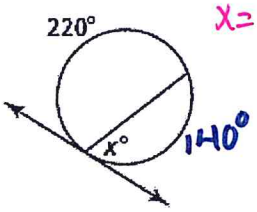
$x = 90^\circ$
$y = 70^\circ$

7.



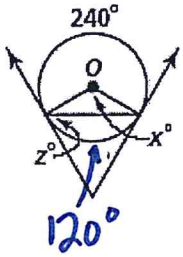
$x = 180^\circ$

C **8.**



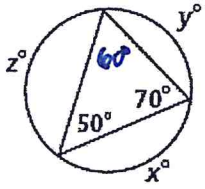
$x = 70^\circ$

C **9.**



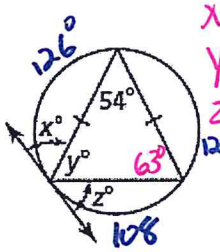
$x = 120^\circ$
$z = 60^\circ$

10.



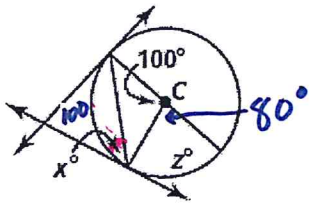
$x = 120^\circ$
$y = 100^\circ$
$z = 140^\circ$

C **11.**

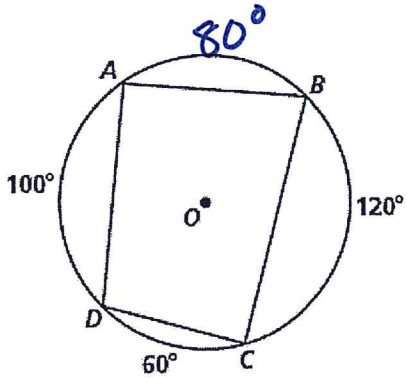


$x = 63^\circ$
$y = 63^\circ$
$z = 54^\circ$

C **12.**



$x = 50^\circ$
$z = 80^\circ$



Find each indicated measure for $\odot O$.

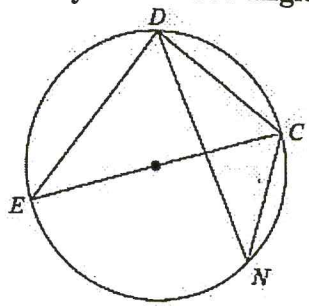
13. a. $m\angle A = 90^\circ$ c) $m\angle C = 90^\circ$

b. $m\angle B = 80^\circ$ d) $m\angle D = 100^\circ$

- Challenge (try, but okay if you don't get them)

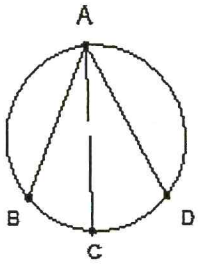
Inscribed Angles

Identify 3 inscribed angles and their corresponded intercepted arcs

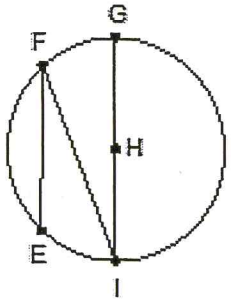


1. inscribed angle _____ intercepted arc _____
2. inscribed angle _____ intercepted arc _____
3. inscribed angle _____ intercepted arc _____

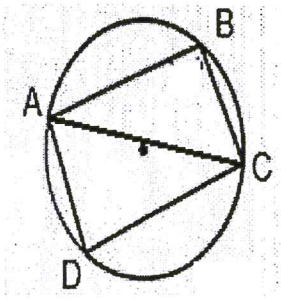
Given the following information, identify the corresponded part.



<ABC, intercepted arc _____
Arc BD, inscribed angle _____



Arc FG, inscribed angle _____
<EFI , intercepted arc _____



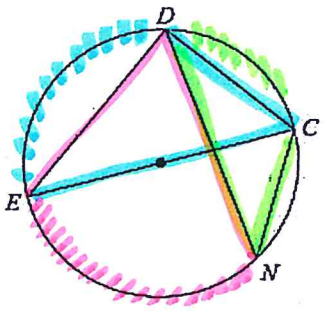
<ABC, intercepted arc _____
Arc BCD, inscribed angle _____
Arc AB, inscribed angle _____
<ACD, intercepted arc _____

H

Key

Inscribed Angles

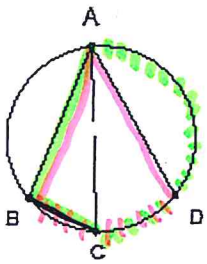
Identify 3 inscribed angles and their corresponded intercepted arcs



1. inscribed angle ∠EDN intercepted arc $\overset{\frown}{EN}$
2. inscribed angle ∠DCE intercepted arc $\overset{\frown}{DE}$
3. inscribed angle ∠DNC intercepted arc $\overset{\frown}{DC}$

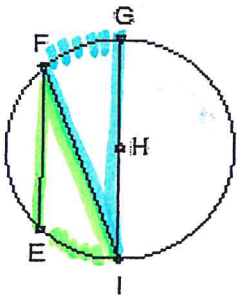
* other possible answers *

Given the following information, identify the corresponded part.



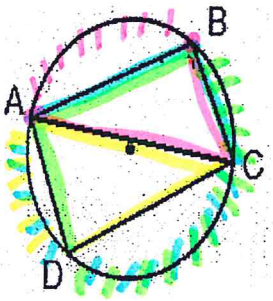
<ABC, intercepted arc $\overset{\frown}{AC}$

Arc BD, inscribed angle ∠BAD



Arc FG, inscribed angle ∠FIG

<EFI , intercepted arc $\overset{\frown}{EI}$



<ABC, intercepted arc $\overset{\frown}{ADC}$

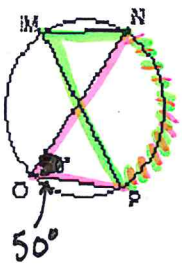
Arc BCD, inscribed angle ∠BAD

Arc AB, inscribed angle ∠ACB

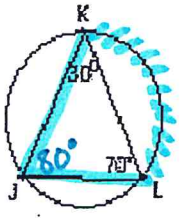
<ACD, intercepted arc $\overset{\frown}{AD}$

olve for the missing arc measure or angle measure.

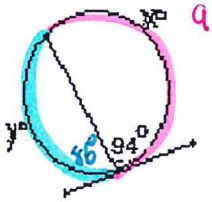
$m\overset{\frown}{NP}$ = 100°, $m\angle PMN$ = 50°



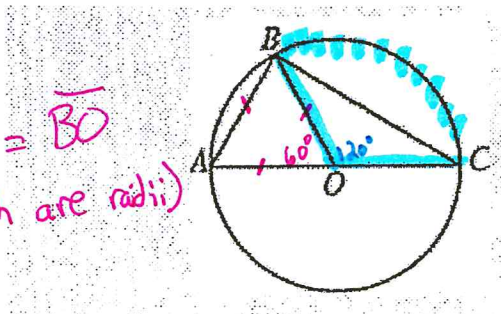
12. $m\overset{\frown}{KL}$ = 160°



13. x = 184°, y = 172°



1.

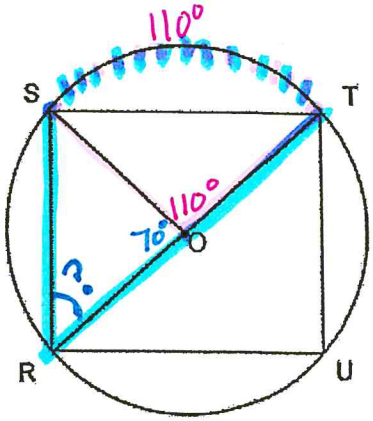


$\overline{AO} = \overline{BO}$ (Both are radii)

$\overset{\frown}{BC} = 120°$

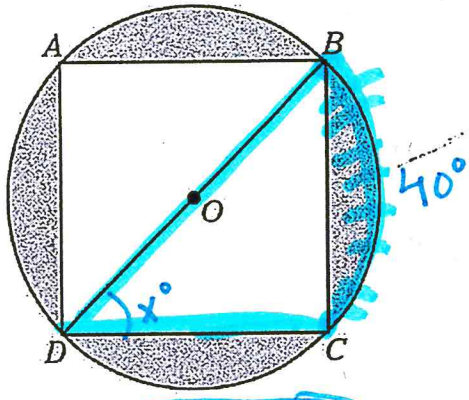
In the figure above, triangle ABC is inscribed in the circle with center O and diameter $\overline{AC}$. If $AB = AO$, what is the degree measure of $\overset{\frown}{BC}$?

2. If m<SOT = 110° , What is m<SRT?



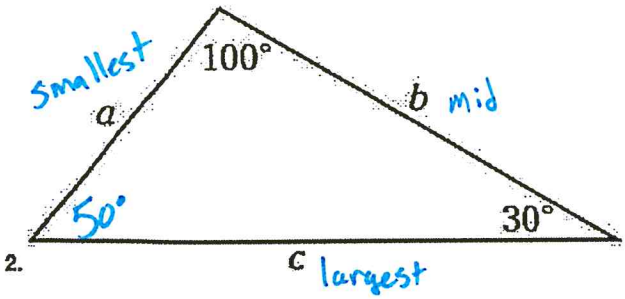
$m\angle SRT = 55°$

3. If arc BC measures 40°, what is m<BDC?



$m\angle BDC = 20°$

3.



Based on the triangle above, which statement is true?

A. $a > b > c$
B. $a > c > b$
C. $b > c > a$
D. $b > a > c$
E. $c > b > a$

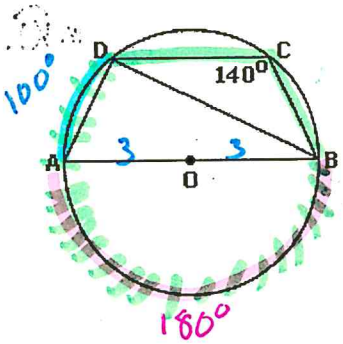
c greater than b greater than a

4. If the radius of the circle is 3cm, what is the length of arc AD?

$L = \frac{m}{360} \cdot C \rightarrow L = \frac{100}{360} \cdot 2\pi(3)$

$L = \frac{5}{18} \cdot 6\pi$

$L = 5.24$ cm



$m\overset{\frown}{BAD} = 280°$

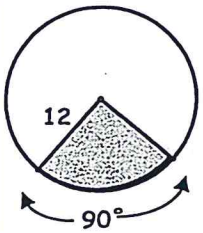
Geometry Worksheet
Arc Length, Sector Area, Segment Area

Name Key
Date _____ Period _____

Find the shaded area. On problems 1-3, find the arc length for the shaded sector also.

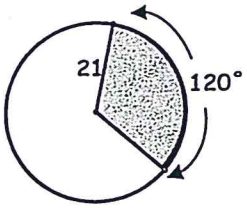
1. A_{sector} = 113.1 u^2

Arc length = 18.8 u



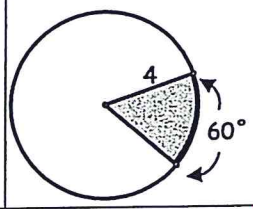
2. A_{sector} = 461.8 u^2

Arc length = 43.98 u



3. A_{sector} = 8.4 u^2

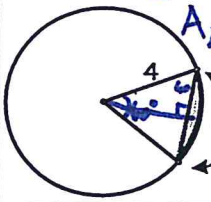
Arc length = 4.2 u



4. $A_{segment}$ = 1.48 u^2

$A_{sector} = 8.4\ u^2$

$A_\Delta = 6.92\ u^2$

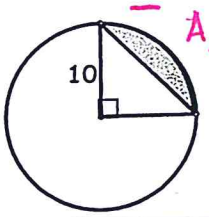


$A = 3.46$
$\times 2$
6.92

5. $A_{segment}$ = 28.5 u^2

$A_{sector} = 78.5\ u^2$

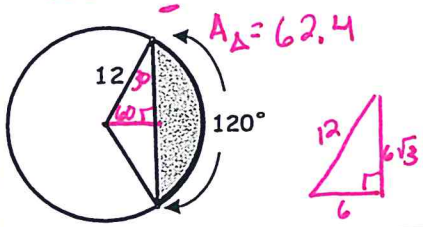
$A_\Delta = 50\ u^2$



6. $A_{segment}$ = 88.4 u^2

$A_{sector} = 150.8\ u^2$

$A_\Delta = 62.4$



7. If BC = 2AB, what fraction of the circle is shaded? (Hint: Let the AB = 2x. D is the center of the big circle. AB is the diameter of a little circle and BC is the diameter of a medium circle. Find the areas in terms of x.)

$\overline{BC} = 4x$ ($r = 2x$)
$\overline{AB} = 2x$ ($r = x$)
$\overline{AC} = 6x$ ($r = 3x$)

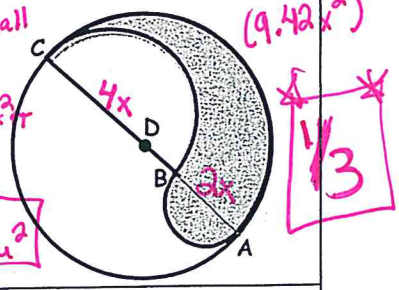
Total Area of Large Circle: $\pi(3x)^2 = 9x^2\pi$
Semi-circle = $\frac{9x^2\pi}{2} = 4.5x^2\pi$

Area of Medium Circle: $\pi(2x)^2 = 4x^2\pi$
Semi-C = $\frac{4x^2\pi}{2} = 2x^2\pi$

Area of small Circle: $\pi(x^2) = x^2\pi$
Semi-C = $.5x^2\pi$

Large + Small − Medium
$4.5x^2\pi + .5x^2\pi - 2x^2\pi$

$3x^2\pi$ u^2



8. Find the degree measure of the arc of a sector with area 36π if the area of the circle is 144π.

$\frac{36\pi}{144\pi} = \frac{x}{360}$ · $\frac{144\pi}{144\pi}$ → $360 \cdot \frac{1}{4} = \frac{x}{360} \cdot 360$ → $x = 90°$

9. Two circles have radii 3 cm. and 5 cm. Find the ratio of their areas.

$9\pi : 25\pi$

9 : 25

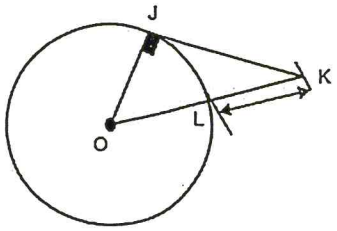
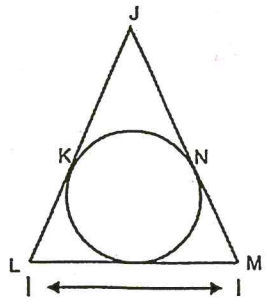
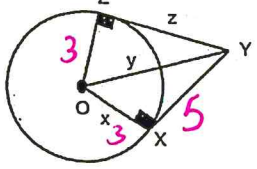
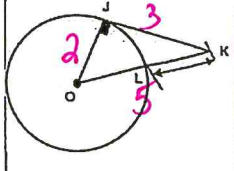
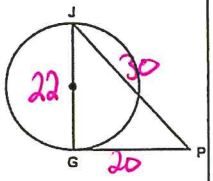
10. The areas of two circles are in the ratio 16 to 9. Find the ratio of their radii.

$\sqrt{16} : \sqrt{9}$
4 : 3

4 : 3

Name: _____ Date _____

Topic: *Tangents and circle-Worksheet 1*

JK is a tangent 	Given OJ, KL	Find JK
	1. 4, 5	$\sqrt{9^2-4^2} = \sqrt{65} = 8.06$
	2. 6, 4	$\sqrt{10^2-6^2} = \sqrt{64} = 8$
	3. 1, 5	$\sqrt{6^2-1^2} = \sqrt{35} = 5.92$
Segments shown are tangents 	Given JK, KL and NM	Find LM
	4. 4,2,5	7
	5. 2,5,9	14
	6. 2,8,14	22
Segments shown are tangents. 	Given XY and OZ, are 5 and 3. $\sqrt{3^2+5^2} = \sqrt{34}$	Find value of the variable
		7. $x = 3$
		8. $y = 5.83$
State true or false:		
9. 	OJ=2, JK=3, OK=5 Is JK a tangent? NO	
10. 	JG is diameter, radius = 11, PG=20, JP=30 Is GP a tangent? NO	