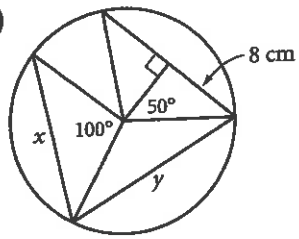
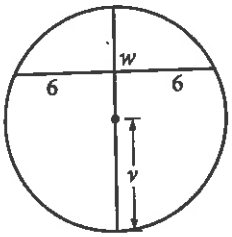
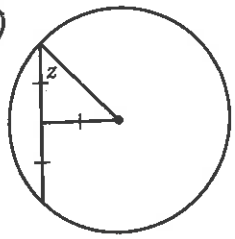
Lesson 6.1 • Chord Properties

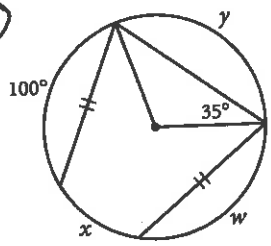
Name _____ Period _____ Date _____

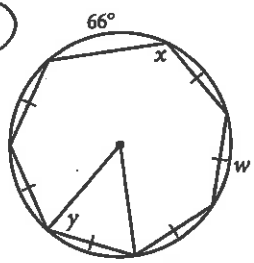
In Exercises 1–5, find each unknown or write "cannot be determined."

1. 

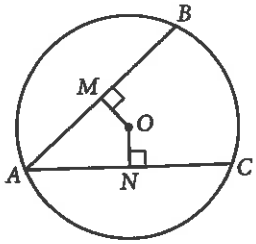
2. 

3. 

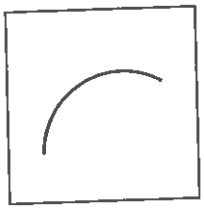
4. 

5. 

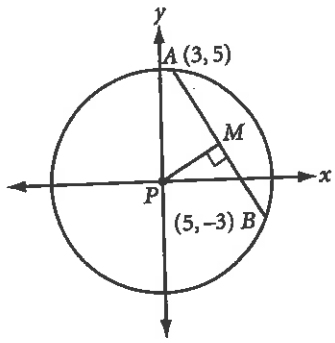
6. $\overline{AB} \cong \overline{AC}$. $AMON$ is a _____.
Justify your answer.



7. Trace part of a circle onto patty paper. Fold to find the center. Explain your method.

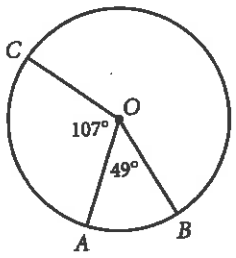


8. Find the coordinates of P and M.



9. Two circles share a common chord. The chord cuts off a 70° arc of circle A and a 50° arc of circle B. Which circle has the larger radius?

10. $m\overset{\frown}{AB}$ = _____
$m\overset{\frown}{ABC}$ = _____
$m\overset{\frown}{BAC}$ = _____
$m\overset{\frown}{ACB}$ = _____

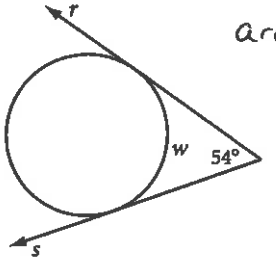


Lesson 6.2 • Tangent Properties

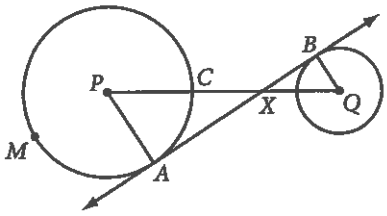
Name _____ Period _____ Date _____

1. Rays r and s are tangents. $w =$ _____

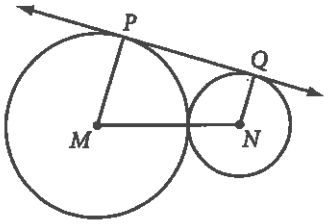
arc ↑ angle



2. $\overleftrightarrow{AB}$ is tangent to both circles and $m\overset{\frown}{AMC} = 295°$. $m\angle BQX =$ _____



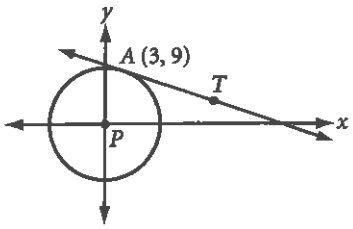
3. $\overleftrightarrow{PQ}$ is tangent to two externally tangent noncongruent circles, M and N.



a. What kind of quadrilateral is $MNQP$? Explain your reasoning.

b. If circles M and N are congruent, what is $MNQP$? Explain why.

4. $\overleftrightarrow{AT}$ is tangent to circle P. Find the equation of $\overleftrightarrow{AT}$.



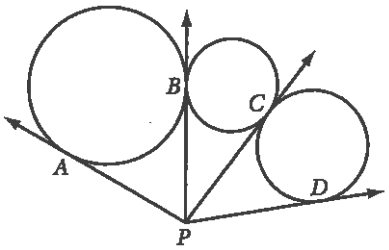
5. Construct a circle, P. Pick a point, A, on the circle. Construct a tangent through A. Pick a point, T, on the tangent. Construct a second tangent to the circle through T.

6. Circle A has diameter 16.4 cm. Circle B has diameter 6.7 cm.

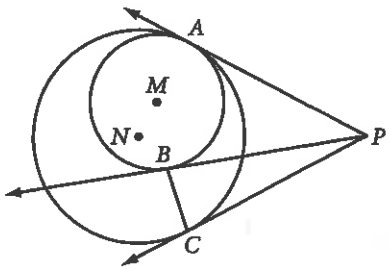
a. If A and B are internally tangent, what is the distance between their centers?

b. If A and B are externally tangent, what is the distance between their centers?

7. $\overleftrightarrow{PA}$, $\overleftrightarrow{PB}$, $\overleftrightarrow{PC}$, and $\overleftrightarrow{PD}$ are tangents. Explain why $\overline{PA} \cong \overline{PD}$.



8. Circles M and N are tangent at A. $\overleftrightarrow{PA}$, $\overleftrightarrow{PB}$, and $\overleftrightarrow{PC}$ are tangents. Explain why $\angle PCB \cong \angle PBC$.



Lesson 6.3 • Arcs and Angles do all

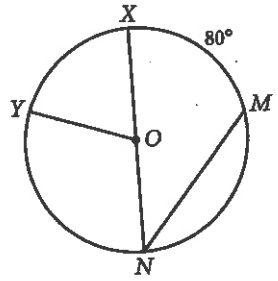
Name _____ Period _____ Date _____

1. $m\overset{\frown}{XM} = 80°$

$m\angle XNM =$ _____

$m\overset{\frown}{XN} =$ _____

$m\overset{\frown}{MN} =$ _____

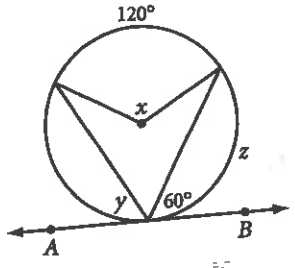


2. $\overleftrightarrow{AB}$ is a tangent.

$x =$ _____

$y =$ _____

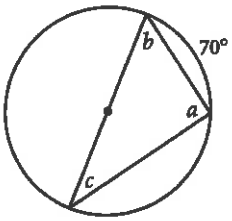
$z =$ _____



3. $a =$ _____

$b =$ _____

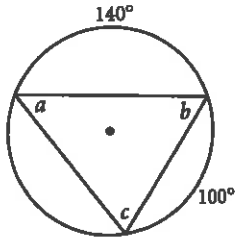
$c =$ _____



4. $a =$ _____

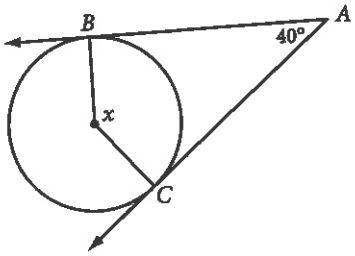
$b =$ _____

$c =$ _____



5. $\overleftrightarrow{AB}$ and $\overleftrightarrow{AC}$ are tangents.

$x =$ _____



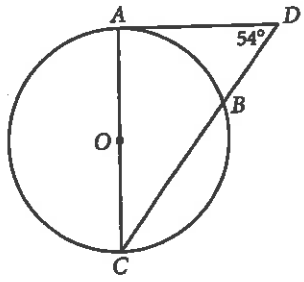
6. $\overline{AD}$ is a tangent. $\overline{AC}$ is a diameter.

$m\angle A =$ _____

$m\overset{\frown}{AB} =$ _____

$m\angle C =$ _____

$m\overset{\frown}{CB} =$ _____

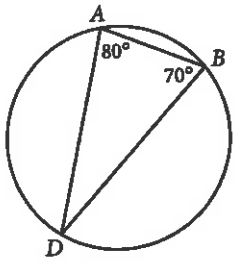


7. $m\overset{\frown}{AD} =$ _____

$m\angle D =$ _____

$m\overset{\frown}{AB} =$ _____

$m\overset{\frown}{DAB} =$ _____

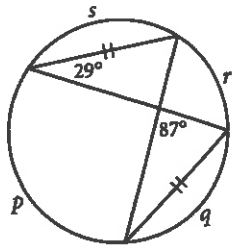


8. $p =$ _____

$q =$ _____

$r =$ _____

$s =$ _____



9. Find the lettered angle and arc measures.

$a =$ _____ $b =$ _____

$d =$ _____ $e =$ _____

$g =$ _____ $h =$ _____

$k =$ _____ $m =$ _____

$p =$ _____

$c =$ _____

$f =$ _____

$j =$ _____

$n =$ _____