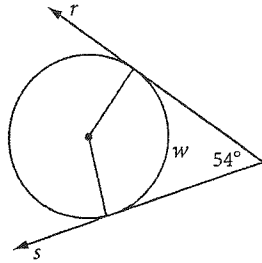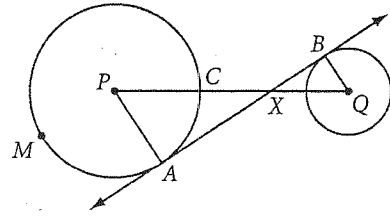# Lesson 6.1 • Tangent Properties

Name _____ Period _____ Date _____

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

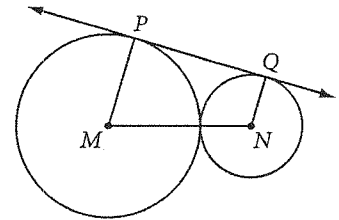**2.** $\overleftrightarrow{AB}$ is tangent to both circles and $m\overarc{AMC} = 295°$. $m\angle BQX =$ _____
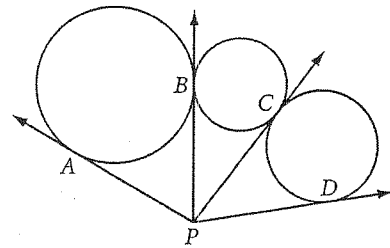

3. $\overleftrightarrow{PQ}$ is tangent to two externally tangent noncongruent circles, M and N.

   a. $m\angle NQP =$ _____, $m\angle MPQ =$ _____

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

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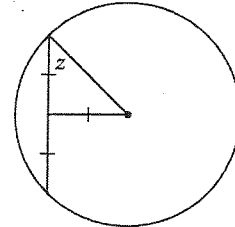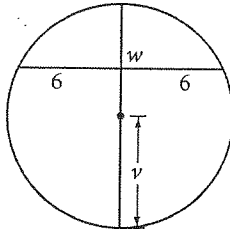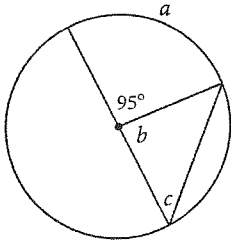

6. Circle A has diameter 16.4 cm. Circle B has diameter 6.7 cm.

   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?
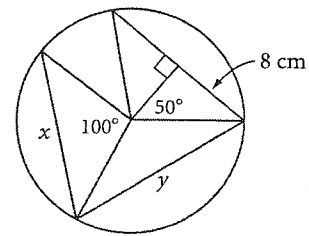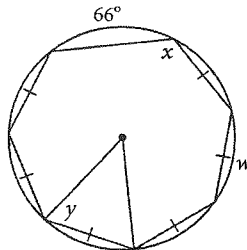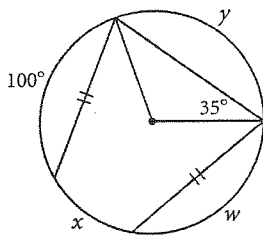
Lesson 6.2 • Chord Properties

Name _____ Period _____ Date _____

In Exercises 1–6, find each unknown or write "cannot be determined."

1. $a =$ _____, $b =$ _____,
$c =$ _____

2. $w =$ _____, $v =$ _____

3. $z =$ _____

4. $w =$ _____, $x =$ _____,
$y =$ _____

5. $w =$ _____, $x =$ _____,
$y =$ _____

6. $x =$ _____, $y =$ _____

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

8. What's wrong with
this picture?

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