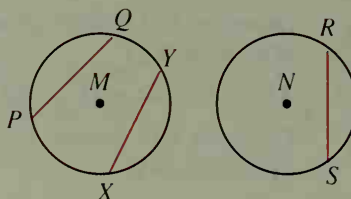
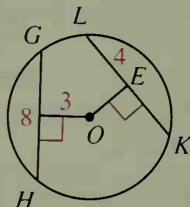


Classroom Exercises

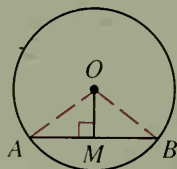
- If $\overline{PQ} \cong \overline{XY}$, can you conclude that $\widehat{PQ} \cong \widehat{XY}$? Why or why not?
- If $\widehat{PQ} \cong \widehat{RS}$, can you conclude that $\overline{PQ} \cong \overline{RS}$? Why or why not?



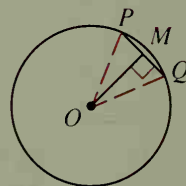
- Study the diagram at the right and tell what theorem justifies each statement.
 - $LK = 8$
 - $OE = 3$
 - $\widehat{LK} \cong \widehat{GH}$



- $AB = 16$
 $OM = 6$
 radius =



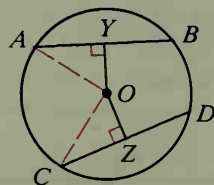
- $PQ = 10$
 radius = 13
 $OM = \underline{\hspace{1cm}}$



- Supply reasons to complete a proof of Theorem 9-6, part (2), for one circle.

Given: $\odot O$; $\overline{AB} \cong \overline{CD}$;
 $\overline{OY} \perp \overline{AB}$; $\overline{OZ} \perp \overline{CD}$

Prove: $OY = OZ$



Proof:

Statements

Reasons

- Draw radii \overline{OA} and \overline{OC} .
- $\overline{OY} \perp \overline{AB}$; $\overline{OZ} \perp \overline{CD}$
- $\overline{AB} \cong \overline{CD}$, or $AB = CD$
- $\frac{1}{2}AB = \frac{1}{2}CD$
- $AY = \frac{1}{2}AB$; $CZ = \frac{1}{2}CD$
- $AY = CZ$, or $\overline{AY} \cong \overline{CZ}$
- $\overline{OA} \cong \overline{OC}$
- rt. $\triangle OYA \cong$ rt. $\triangle OZC$
- $\overline{OY} \cong \overline{OZ}$, or $OY = OZ$

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- Suppose that in Theorem 9-6, the words "circle" and "circles" are replaced by "sphere" and "spheres." Is the resulting statement true?