10.3 HW Solutions from book

HW: pg. 574 #8-32 even, 37-39 all KEY

8. Given: $\odot P$, $\overline{AB} \perp \overline{TK}$
Prove: $\overline{AR} \cong \overline{BR}$, $\overparen{AK} \cong \overparen{BK}$
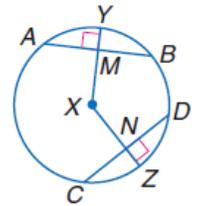**Proof:**
Statements (Reasons)
1. $\odot P$, $\overline{AB} \perp \overline{TK}$ (Given)
2. $\overline{PA} \cong \overline{PB}$ (All radii are congruent.)
3. $\overline{PR} \cong \overline{PR}$ (Reflexive Prop.)
4. $\angle ARP$ and $\angle PRB$ are rt. $\angle$s (Def. of $\perp$ lines)
5. $\triangle ARP \cong \triangle BRP$ (HL)
6. $\overline{AR} \cong \overline{BR}$, $\angle 1 \cong \angle 2$ (CPCTC)
7. $\overparen{AK} \cong \overparen{BK}$ (If central $\angle$s are $\cong$, intercepted arcs are $\cong$.)

10. $m\overparen{LM} = m\overparen{MJ} = m\overparen{JK} = m\overparen{KL} = 90$

In $\odot X$, $AB = 30$, $CD = 30$, and $m\overparen{CZ} = 40$. Find each measure.
12. AM **15**   **13.** MB **15**
14. CN **15**   **15.** ND **15**
16. $m\overparen{DZ}$ **40**   **17.** $m\overparen{CD}$ **80**
18. $m\overparen{AB}$ **80**   **19.** $m\overparen{YB}$ **40**

In $\odot D$, $CF = 8$, $DE = FD$, and $DC = 10$. Find each measure.
24. FB **8**   **25.** BC **16**
26. AB **16**   **27.** ED **6**
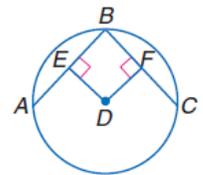
The radius of $\odot P$ is 5 and $PR = 3$. Find each measure.
28. QR **4**   **29.** QS **8**
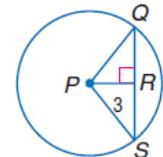
In $\odot T$, $ZV = 1$, and $TW = 13$. Find each measure.
30. XV **5**   **31.** XY **10**
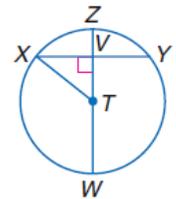
★ **32. ALGEBRA** In $\odot Z$, $PZ = ZQ$, $XY = 4a - 5$, and $ST = -5a + 13$. Find SQ. **1.5**
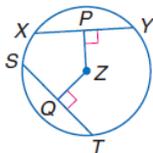
For Exercises 37–39, draw and label a figure. Then solve.
37. The radius of a circle is 34 meters long, and a chord of the circle is 60 meters long. How far is the chord from the center of the circle? **16 m**
38. The diameter of a circle is 60 inches, and a chord of the circle is 48 inches long. How far is the chord from the center of the circle? **18 in.**
39. A chord of a circle is 48 centimeters long and is 10 centimeters from the center of the circle. Find the radius. **26 cm**