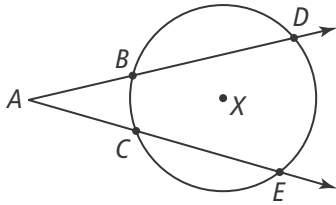


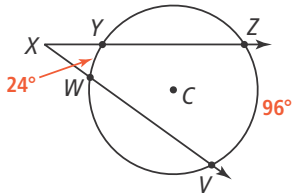


**UNDERSTAND**

11. **Construct Arguments** Given  $\odot X$ , write a two-column proof of Theorem 10-12, Case 2.



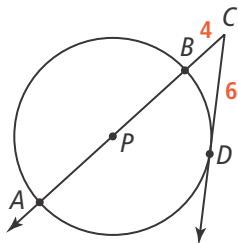
12. **Error Analysis** Cindy is asked to find  $m\angle VXZ$ . What is her error?



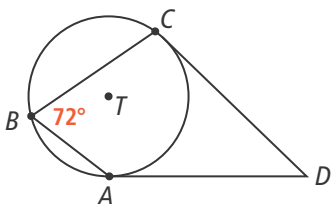
$$\begin{aligned}
 m\angle VXZ &= \frac{1}{2}(m\widehat{WY} + m\widehat{VZ}) \\
 &= \frac{1}{2}(24 + 96) \\
 &= 60
 \end{aligned}$$

X

13. **Mathematical Connections** Given  $\odot P$ , secant  $\overrightarrow{CA}$ , and tangent  $\overrightarrow{CD}$ , what is the area of  $\odot P$ ?



14. **Higher Order Thinking** Given  $\odot T$ , and tangents  $\overline{AD}$  and  $\overline{CD}$ , what is the measure of  $\angle ADC$ ?



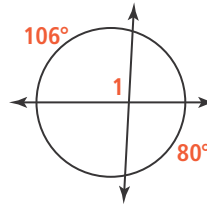
15. **Communicate Precisely** How would you describe each case of Theorem 10-11?

**PRACTICE**

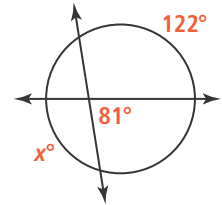
For Exercises 16 and 17, find each measure.

SEE EXERCISE 1

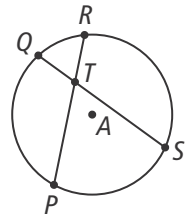
16.  $m\angle 1$



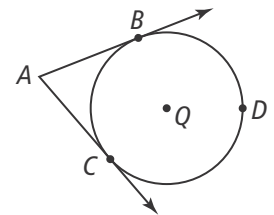
17.  $x^\circ$



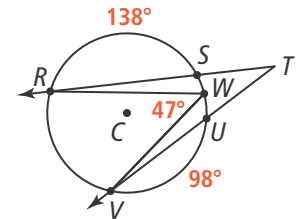
18. Given  $\odot A$  and secants  $\overline{PR}$  and  $\overline{QS}$ , write a paragraph proof of Theorem 10-10. SEE EXAMPLE 1



19. Given  $\odot Q$  and tangents  $\overline{AB}$  and  $\overline{AC}$ , write a two-column proof of Theorem 10-11, Case 3. SEE EXAMPLE 2



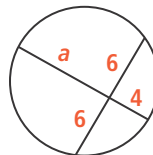
20. Given  $\odot C$ , inscribed angle  $\angle RWV$ , and secants  $\overline{TR}$  and  $\overline{TV}$ , what is the measure of  $\angle RTV$ ? SEE EXAMPLE 3



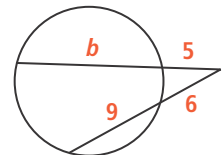
For Exercises 21 and 22, find each length.

SEE EXERCISE 4

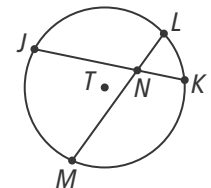
21.  $a$



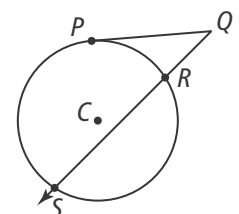
22.  $b$



23. Given  $\odot T$  and secants  $\overline{JK}$  and  $\overline{LM}$  intersecting at point  $N$ , write a paragraph proof of Theorem 10-12, Case 1. SEE EXAMPLE 4

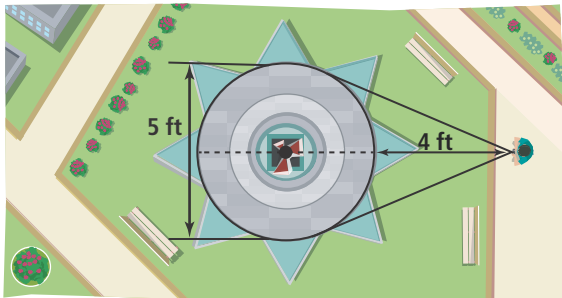


24. Given  $\odot C$ , secant  $\overrightarrow{QS}$  and tangent  $\overline{PQ}$ , write a two-column proof of Theorem 10-12, Case 3. SEE EXAMPLE 5



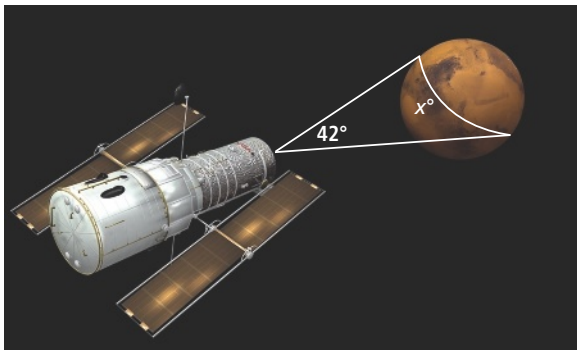
**APPLY**

25. **Use Structure** Chris stands in the position shown to take a picture of a sculpture with a circular base.

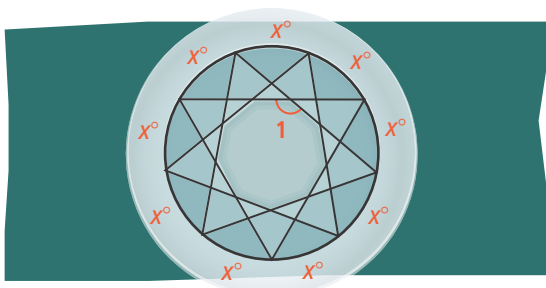


- Chris is deciding on which lens to use. What is the minimum view angle from where he stands so he can get as much of the base as possible in his picture?
- If Chris uses a lens with a view angle of  $40^\circ$ , what is the shortest distance he could stand from the sculpture?

26. **Reason** A satellite orbits above the equator of Mars as shown and transmits images back to a scientist in the control room. What percent of the equator is the scientist able to see? Explain.



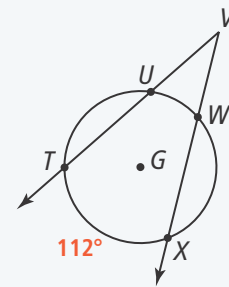
27. **Use Structure** Carolina wants to etch the design shown onto a circular piece of glass. At what measure should she cut  $\angle 1$ ? Explain.



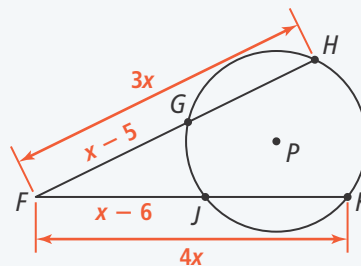
**ASSESSMENT PRACTICE**

28. For what measure of  $\widehat{UW}$  does  $m\angle TVX = 34^\circ$ ?

$m\widehat{UW} = \underline{\hspace{2cm}}$

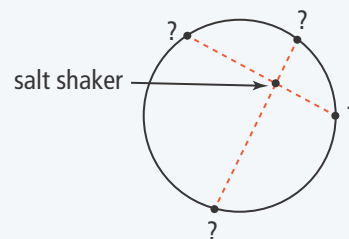


29. **SAT/ACT** Given  $\odot P$  and secants  $\overline{FH}$  and  $\overline{FK}$ , what is  $FG$ ?



- Ⓐ 3    Ⓑ 4    Ⓒ 9    Ⓓ 27    Ⓔ 36

30. **Performance Task** Alberto, Benson, Charles, and Deon sit at a round lunch table with diameter 54 inches. The salt shaker is 27 inches from Charles, 18 inches from Benson, 20 inches from Deon, and 30 inches from Alberto.



**Part A** In what order around the table are they seated? Explain.

**Part B** Alberto, Benson, Charles, and Deon change the positions of their seats and sit evenly spaced around the table. If the location of the salt shaker does not change, what is the closest that one of them could be from the salt shaker? What is the farthest?