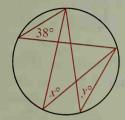
- 3. a. What is the sum of the measures of the red and blue arcs?
 - b. Explain how part (a) allows you to deduce x + y = 180.
 - c. State the corollary of Theorem 9-7 that you have just proved.

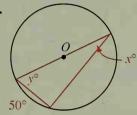


Tangents and chords are shown. Find the values of x and y. Exercise 5, O is the center of the circle.

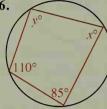
4.



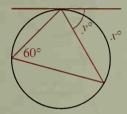
5.



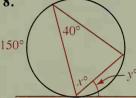
6.



7.



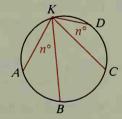
8.



9.



- 10. a. State the contrapositive of Corollary 3.
 - **b.** In quadrilateral *PQRS*, $m \angle P = 100$ and $m \angle R = 90$. Is it possible to circumscribe a circle about PQRS? Why or why not?
- 11. In the diagram, $m \angle AKB = m \angle CKD = n$. $\widehat{mAB} = \frac{?}{}$ and $\widehat{mCD} = \frac{?}{}$. State a theorem suggested by this exercise.



- 12. Outline a proof of Case II of Theorem 9-7. Use the diagram on page 350. (*Hint*: Draw the diameter from B and apply Case I.)
- 13. Repeat Exercise 12 for Case III.
- **14.** Equilateral $\triangle ABC$ is inscribed in $\bigcirc O$. Tangents to the circle at A and C meet at D. What kind of figure is ABCD?