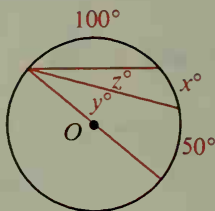## Written Exercises
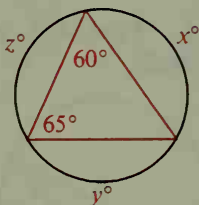
In the diagrams that follow, O is the center of the circle. In Exercises 1–9 find the values of x, y, and z.
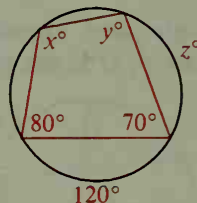
A **1.**
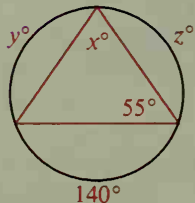

2.

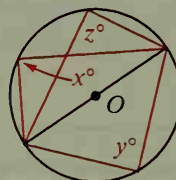**3.**

4.

5.
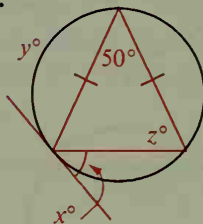
6.

7.

8.

9.

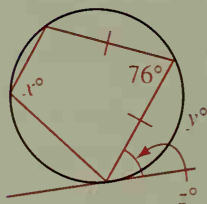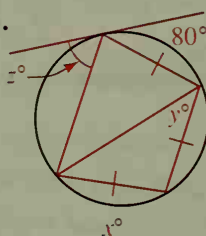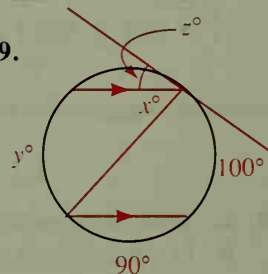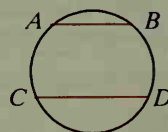**10.** Prove: If two chords of a circle are parallel, the two arcs between the chords are congruent.

Given: $\overline{AB} \parallel \overline{CD}$

Prove: $\overarc{AC} \cong \overarc{BD}$

(*Hint*: Draw an auxiliary line.)

11. a. State the converse of the statement in Exercise 10.
   b. Is this converse true or false? If it is true, write a proof. If not, explain why it is false.

12. Prove: $\triangle UXZ \sim \triangle YVZ$