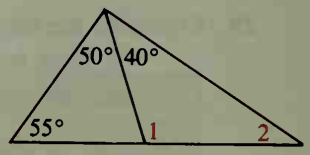
Self-Test 2

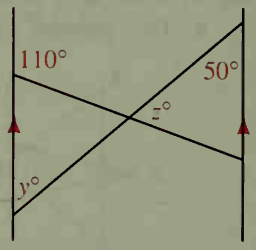
Complete.

1. If the measure of each angle of a triangle is less than 90, the triangle is called ___?___.
2. If a triangle has no congruent sides, it is called ___?___.
3. Each angle of an equiangular triangle has measure ___?___.
4. In the diagram, $m\angle 1 =$ ___?___ and $m\angle 2 =$ ___?___.
5. If the measures of the acute angles of a right triangle are $2x + 4$ and $3x - 9$, then $x =$ ___?___.



Ex. 4

6. Find the values of y and z.
7. The lengths of the sides of a triangle are $2x + 5$, $3x + 10$, and $x + 12$. Find all values of x that make the triangle isosceles.
8. An octagon has ___?___ sides.
9. A regular polygon is both ___?___ and ___?___.
10. In a regular decagon, the sum of the measures of the exterior angles is ___?___ and the measure of each interior angle is ___?___.



Ex. 6

11. If the measure of each angle of a polygon is 174, then the measure of each exterior angle is ___?___ and the polygon has ___?___ sides.

Use inductive reasoning to predict the next number in each sequence.

12. $2, -4, 8, -16, \ldots$
13. $7, 12, 17, 22, 27, \ldots$
14. $1, 4, 9, 16, 25, \ldots$
15. $1, 4, 2, 8, 4, 16, 8, 32, \ldots$

Chapter Summary

1. Lines that do not intersect are either parallel or skew.
2. When two parallel lines are cut by a transversal:
   - **a.** corresponding angles are congruent;
   - **b.** alternate interior angles are congruent;
   - **c.** same-side interior angles are supplementary;
   - **d.** if the transversal is perpendicular to one of the two parallel lines, it is also perpendicular to the other one.
3. The chart on page 85 lists five ways to prove lines parallel.
4. Through a point outside a line, there is exactly one line parallel to, and exactly one line perpendicular to, the given line.
5. Two lines parallel to a third line are parallel to each other.