Postulate 5

A line contains at least two points; a plane contains at least three points not all in one line; space contains at least four points not all in one plane.

Postulate 6

Through any two points there is exactly one line.

Postulate 7

Through any three points there is at least one plane, and through any three noncollinear points there is exactly one plane.

Postulate 8

If two points are in a plane, then the line that contains the points is in that plane.

Postulate 9

If two planes intersect, then their intersection is a line.

Important statements that are *proved* are called **theorems.** In Classroom Exercise 1 you will see how Theorem 1-1 follows from the postulates. In Written Exercise 20 you will complete an argument that justifies Theorem 1-2. You will learn about writing proofs in the next chapter.

Theorem 1-1

If two lines intersect, then they intersect in exactly one point.

Theorem 1-2

Through a line and a point not in the line there is exactly one plane.

Theorem 1-3

If two lines intersect, then exactly one plane contains the lines.

The phrase "exactly one" appears several times in the postulates and theorems of this section. The phrase "one and only one" has the same meaning. For example, here is another correct form of Theorem 1-1:

If two lines intersect, then they intersect in one and only one point.

The theorem states that a point of intersection *exists* (there is *at least one* point of intersection) and the point of intersection is *unique* (*no more than one* such point exists).