Special Quadrilaterals

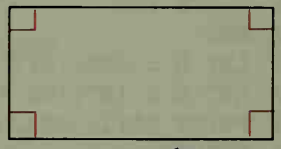
Objectives

1. Apply the definitions and identify the special properties of a rectangle, a rhombus, and a square.
2. Determine when a parallelogram is a rectangle, rhombus, or square.
3. Apply the definitions and identify the properties of a trapezoid and an isosceles trapezoid.

5-4 *Special Parallelograms*

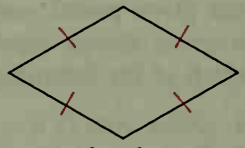
In this section you will study the properties of special parallelograms: *rectangles*, *rhombuses*, and *squares*.

A **rectangle** is a quadrilateral with four right angles. Therefore, every rectangle is a parallelogram. (Why?)



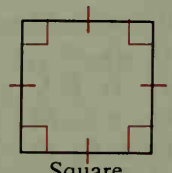
Rectangle

A **rhombus** is a quadrilateral with four congruent sides. Therefore, every rhombus is a parallelogram. (Why?)



Rhombus

A **square** is a quadrilateral with four right angles and four congruent sides. Therefore, every square is a rectangle, a rhombus, and a parallelogram. (Why?)



Square

Since rectangles, rhombuses, and squares are parallelograms, they have all the properties of parallelograms. They also have the special properties given in the theorems on the next page. Proofs of these theorems are left as exercises.