

# Practice 21

For use with Section 3-3

---

Using the definitions stated in the text, determine whether each statement is *True* or *False*.

1. All rectangles are right trapezoids.
2. If a quadrilateral is a parallelogram, then it is a trapezoid.
3. All isosceles trapezoids are kites.
4. If a quadrilateral is a rhombus, then it is an isosceles trapezoid.

For Exercises 5–8, determine whether the word “one” means “exactly one” or “at least one.”

5. The senior class will choose one person as president, one person as secretary, and one person as treasurer.
6. In order to use the car pool lane, a car must contain one person besides the driver.
7. For good health, you should eat one serving of fruit each day.
8. Each citizen of voting age should cast one vote on election day.
9. Suppose you define a rectangle as follows: “A rectangle is a quadrilateral whose angles are all right angles and whose four sides are not all equal in measure.”
  - a. Is this definition *inclusive* or *exclusive*?
  - b. According to this definition, is “All squares are rectangles” a true statement?
  - c. According to this definition, is “Some rectangles are squares” a true statement?
  - d. According to this definition, is “No rectangles are squares” a true statement?

Write a definition for each polygon using a biconditional statement.

10. rhombus                      11. kite                              12. parallelogram                      13. square

14. **Open-ended** Write a definition of some familiar term, such as *window*. Give your definition to a friend, and ask your friend to identify what you are defining. If he or she cannot do so, change your definition. If he or she can identify it, ask whether he or she can think of any other things that fit the definition. If so, change your definition until it actually defines what you have in mind.