

**LESSON**  
**8.6**
**Practice C**
*For use with pages 552–557*

**Draw the sides or diagonals of  $ABCD$  as described. What special type of quadrilateral is  $ABCD$ ?**

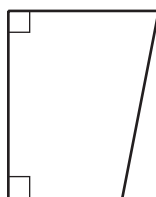
- $\overline{AC} \cong \overline{BD}$ ,  $\overline{AC}$  and  $\overline{BD}$  bisect one another, but  $\overline{AC}$  is not perpendicular to  $\overline{BD}$ .
- $\overline{AB} \cong \overline{BC}$  and  $\overline{CD} \cong \overline{DA}$ , but  $\overline{BC} \not\cong \overline{CD}$ .
- $\overline{AB} \parallel \overline{CD}$  and  $\overline{BC} \cong \overline{DA}$ .
- $\overline{AC} \perp \overline{BD}$ ,  $\overline{AC}$  and  $\overline{BD}$  bisect one another, but  $\overline{AC} \not\cong \overline{BD}$ .
- $\overline{AC} \perp \overline{BD}$ ,  $\overline{AC}$  and  $\overline{BD}$  bisect one another, and  $\overline{AC} \cong \overline{BD}$ .

**Determine whether the statement is *always*, *sometimes*, or *never* true.**

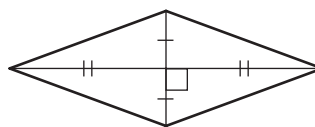
- Diagonals of a trapezoid are congruent.
- Opposite sides of a rectangle are congruent.
- A square is a rectangle.
- A square is not a rhombus.
- All angles of a parallelogram are congruent.
- Opposite angles of an isosceles trapezoid are congruent.
- The diagonals of a parallelogram are perpendicular.

**Tell whether enough information is given in the diagram to classify the quadrilateral by the indicated name. *Explain.***

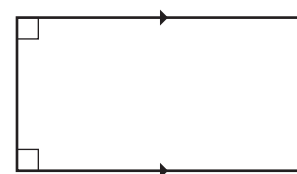
13. Trapezoid



14. Rhombus



15. Rectangle



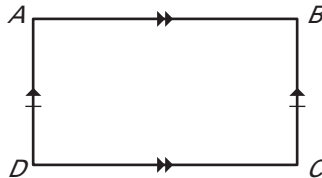
**Points  $P$ ,  $Q$ ,  $R$ , and  $S$  are the vertices of a quadrilateral. Give the most specific name for  $PQRS$ . *Justify* your answer.**

- $P(-1, 3)$ ,  $Q(4, 2)$ ,  $R(1, -1)$ ,  $S(-4, 0)$
- $P(-3, 5)$ ,  $Q(-7, 6)$ ,  $R(-9, -2)$ ,  $S(-5, -3)$
- $P(-2, 9)$ ,  $Q(-2, -1)$ ,  $R(-5, 5)$ ,  $S(-5, 7)$
- Use the quadrilateral in Exercise 17. Find the midpoint of each side. Connect the midpoints to form a new quadrilateral. What kind of quadrilateral is formed?

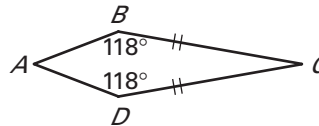
**LESSON**  
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**Practice C** *continued*  
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Which pairs of segments or angles must be congruent so that you can prove that  $ABCD$  is the indicated quadrilateral? *Explain*. There may be more than one right answer.

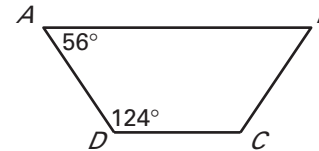
20. Rectangle



21. Kite



22. Isosceles Trapezoid



23. Let  $ABCD$  be a quadrilateral with  $\overline{AB} \cong \overline{BC}$ ,  $\overline{CD} \cong \overline{DA}$ , and  $\overline{AB} \parallel \overline{CD}$ . What type of quadrilateral is  $ABCD$ ? *Verify* your answer by completing the proof.

Statements	Reasons
1. Draw $\overline{AC}$ .	1. ?
2. $\overline{AB} \cong \overline{BC}$ , $\overline{CD} \cong \overline{DA}$	2. ?
3. ?	3. Base Angles Theorem
4. ?	4. Given
5. $\angle CAB \cong \angle ACD$	5. ?
6. ?	6. Transitive Prop. of Congruence
7. $\overline{AC} \cong \overline{AC}$	7. ?
8. ?	8. ASA Congruence Postulate
9. $\overline{AB} \cong \overline{CD}$	9. ?
10. ?	10. Transitive Prop. of Congruence
11. ?	11. ?