



Name _____ Date _____

Classifying Quadrilaterals (Pages 201–204)

A quadrilateral is a polygon with four sides and four angles. The sum of the measures of the angles of a quadrilateral is 360° .

Types of Quadrilaterals	<ul style="list-style-type: none"> • A parallelogram is a quadrilateral with two pairs of opposite sides that are parallel. • A rectangle is a parallelogram with four right angles. • A rhombus is a parallelogram with all sides congruent. • A square is a parallelogram with all sides congruent and four right angles. • A trapezoid is a quadrilateral with exactly one pair of opposite sides that are parallel.
	<p>parallelogram rectangle rhombus square trapezoid</p>

EXAMPLES

Classify each quadrilateral.

A Quadrilateral $ABCD$ has only one pair of parallel sides.

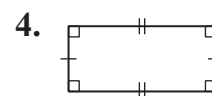
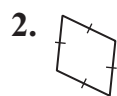
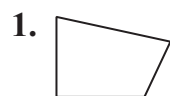
The only quadrilateral with only one pair of sides parallel is a trapezoid. Quadrilateral $ABCD$ is a trapezoid.

B Quadrilateral $HIJK$ has all sides congruent, with four right angles.

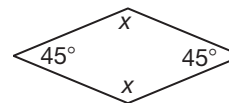
A quadrilateral with four sides congruent and four right angles is a square. A square is also a parallelogram, a rectangle, and a rhombus. Therefore, quadrilateral $HIJK$ is a parallelogram, a rectangle, a rhombus, and a square.

PRACTICE

Let Q = quadrilateral, P = parallelogram, R = rectangle, S = square, RH = rhombus, and T = trapezoid. Write all of the letters that describe each figure.



5. **Architecture** An architect is designing a rhombus-shaped window for a new house. A sketch of the window is shown at the right. Find the value of x so the architect will know the measures of all four angles.



6. **Standardized Test Practice** What is the best way to classify a quadrilateral that is also a parallelogram with 4 right angles?

- A** trapezoid **B** rhombus **C** square **D** rectangle

Answers: 1. Q 2. Q, P, RH 3. Q, T 4. Q, P, R 5. 135 6. D