Name _____

# Quadrilaterals

**Essential Question** How can you classify and compare quadrilaterals?

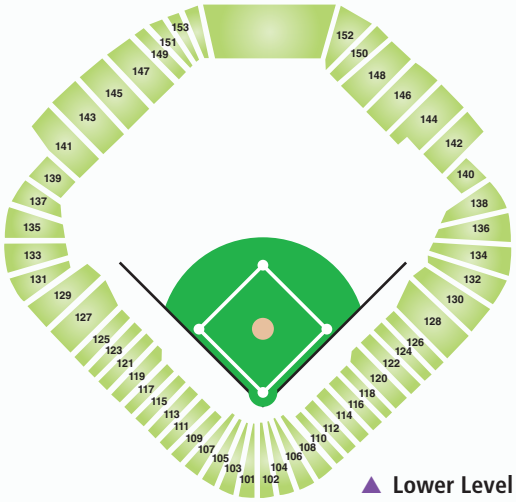
**Geometry—**
**5.G.3, 5.G.4**

**MATHEMATICAL PRACTICES**
**MP.1, MP.7, MP.8**

## Unlock the Problem

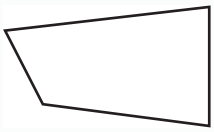
A seating chart for a baseball field has many four-sided figures, or **quadrilaterals**. What types of quadrilaterals can you find in the seating chart?

There are five special types of quadrilaterals. You can classify quadrilaterals by their properties, such as parallel sides and perpendicular sides. Parallel lines are lines that are always the same distance apart. Perpendicular lines are lines that intersect to form four right angles.

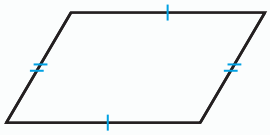



**Complete the sentence that describes each type of quadrilateral.**

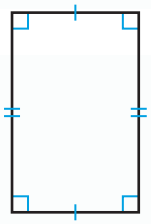
A general quadrilateral has 4 sides and 4 angles.



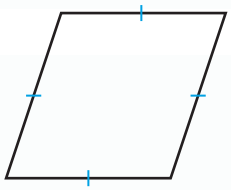
A **parallelogram** has opposite _____ that are _____ and parallel.



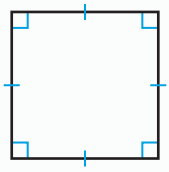
A **rectangle** is a special parallelogram with _____ right angles and 4 pairs of _____ sides.



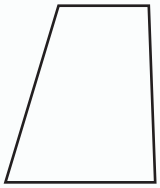
A **rhombus** is a special parallelogram with _____ congruent sides.



A **square** is a special parallelogram with _____ congruent sides and _____ right angles.



A **trapezoid** is a quadrilateral with exactly 1 pair of _____ sides.



So, the types of quadrilaterals you can find in the seating chart of the field are _____.

**Math Talk** **Mathematical Practices**

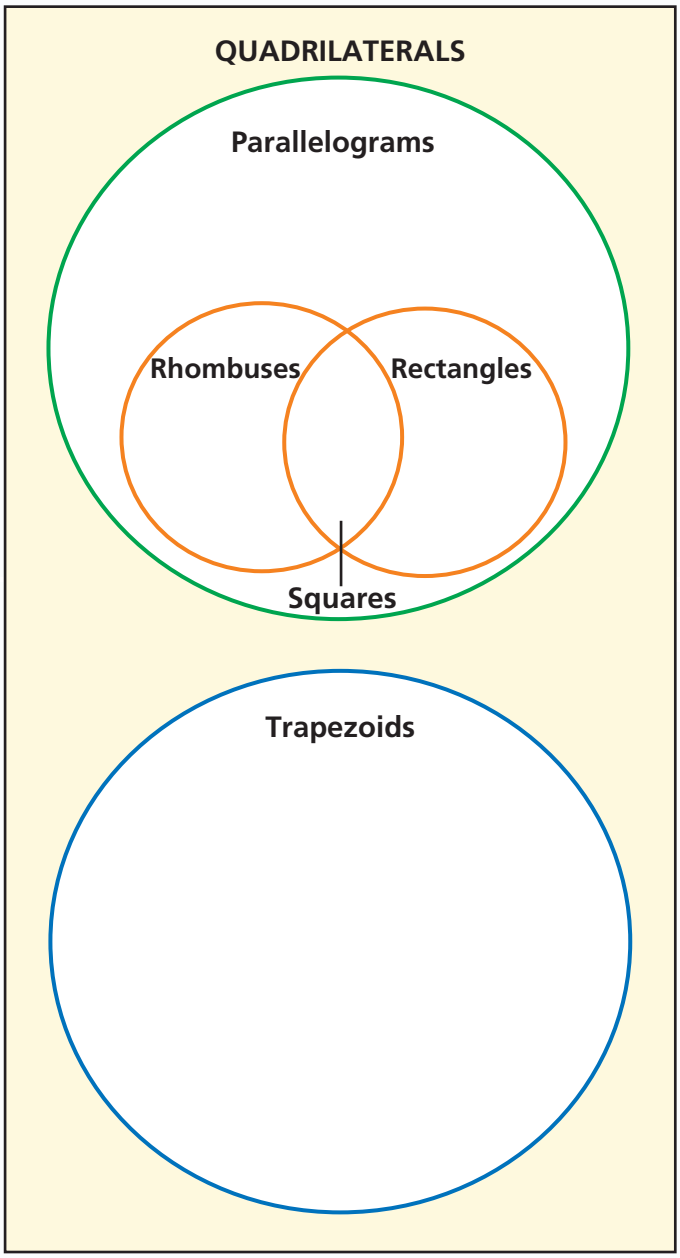
**Explain** how trapezoids and parallelograms are different.

# Activity

**Materials** ■ quadrilaterals ■ scissors

**You can use a Venn diagram to sort quadrilaterals and find out how they are related.**

- Draw the diagram below on your MathBoard.
- Cut out the quadrilaterals and sort them into the Venn diagram.
- Record your work by drawing each figure you have placed in the Venn diagram below.




**Complete the sentences by writing *always, sometimes,* or *never.***

A rhombus is _____ a square.

A parallelogram is _____ a rectangle.

A rhombus is _____ a parallelogram.

A trapezoid is _____ a parallelogram.

A square is _____ a rhombus.

**1.** Explain why the circle for parallelograms does not intersect the circle for trapezoids.

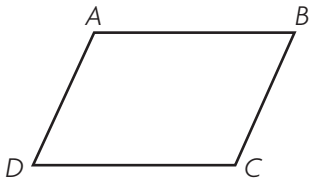
**2.** Explain why the section of the Venn Diagram for squares intersects with both the section for rhombuses and the section for rectangles.

Name _____

## Share and Show

MATH BOARD

**1.** Use quadrilateral *ABCD* to answer each question. Complete the sentence.




**a.** Measure the sides. Are any of the sides congruent? _____
Mark any congruent sides.

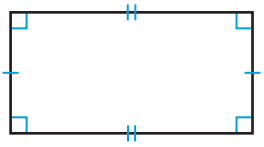
**b.** How many right angles, if any, does the quadrilateral have? _____

**c.** How many pairs of parallel sides, if any, does the quadrilateral have? _____

So, quadrilateral *ABCD* is a _____.

**Classify the quadrilateral in as many ways as possible. Write *quadrilateral, parallelogram, rectangle, rhombus, square,* or *trapezoid.***

**2.**



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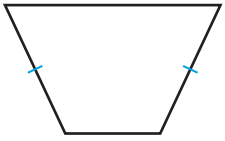

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**Math Talk**

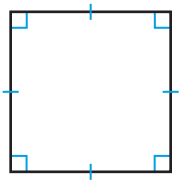
**Mathematical Practices**

Can the parallel sides of a trapezoid be the same length? **Explain** your answer.

## On Your Own

**Classify the quadrilateral in as many ways as possible. Write *quadrilateral, parallelogram, rectangle, rhombus, square,* or *trapezoid.***

**4.**



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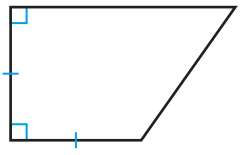

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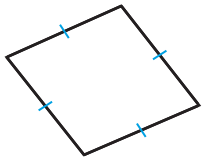

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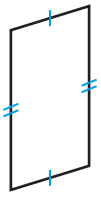
**7.**



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