

Name _____

Classify Quadrilaterals

Essential Question How can you sort and classify quadrilaterals?



Geometry—
4.G.A.2

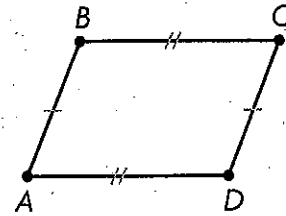
MATHEMATICAL PRACTICES
MP1, MP2, MP6

Unlock the Problem



A quadrilateral is a polygon with four sides and four angles. You can name a quadrilateral by the vertices of its angles.

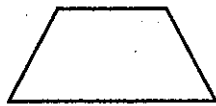
Quadrilateral $ABCD$ is a possible name for the figure shown at the right. Quadrilateral $ACBD$ is not a possible name, since points A and C are not endpoints of the same side.



The tick marks on the line segments show that they have the same length. Sides AD and BC have the same length. Sides AB and CD have the same length.

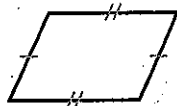
Assume that line segments that appear to be parallel are parallel.

Common Quadrilaterals



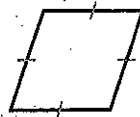
Trapezoid

- at least 1 pair of parallel sides



Parallelogram

- 2 pairs of parallel sides
- 2 pairs of sides of equal length



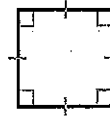
Rhombus

- 2 pairs of parallel sides
- 4 sides of equal length



Rectangle

- 2 pairs of parallel sides
- 2 pairs of sides of equal length
- 4 right angles



Square

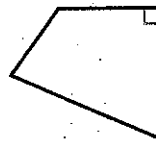
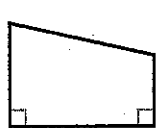
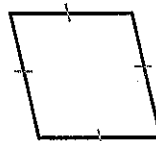
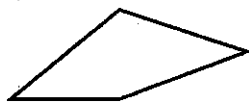
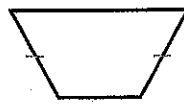
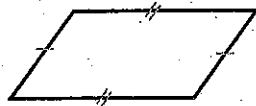
- 2 pairs of parallel sides
- 4 sides of equal length
- 4 right angles



Activity 1 Identify right angles in quadrilaterals.

Materials ■ color pencils

Use the Quadrilateral Color Guide to color the quadrilaterals.



Quadrilateral Color Guide	
RED	exactly 4 right angles
BLUE	exactly 2 right angles
ORANGE	exactly 1 right angle



MATHEMATICAL PRACTICES 6

Can a quadrilateral have exactly 3 right angles? Explain.

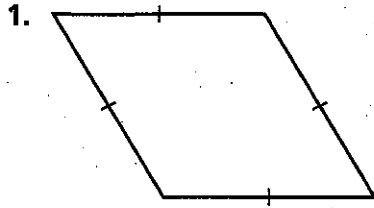
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Classify Quadrilaterals



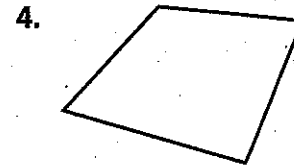
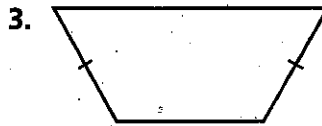
COMMON CORE STANDARD—4.G.A.2
Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

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



Think: 2 pairs of parallel sides
4 sides of equal length
0 right angles

quadrilateral, trapezoid, parallelogram, rhombus



- 1. _____
- 2. _____
- 3. _____
- 4. _____

- 1. _____
- 2. _____

- 1. _____
- _____
- _____

Problem Solving

5. Alan drew a polygon with four sides and four angles. All four sides are equal. None of the angles are right angles. What figure did Alan draw?

6. Teresa drew a quadrilateral with 2 pairs of parallel sides and 4 right angles. What quadrilateral could she have drawn?

7. **WRITE** *Math* Draw and label an example of each type of quadrilateral: trapezoid, parallelogram, rhombus, rectangle, and square.