

Dear Family,

During the next few weeks, our math class will be learning about plane shapes. We will learn to identify polygons and describe them by their sides and angles.

You can expect to see homework that provides practice with shapes.

Here is a sample of how your child will be taught to classify quadrilaterals.

Vocabulary

angle A shape formed by two rays that share an endpoint

closed shape A shape that begins and ends at the same point

polygon A closed plane shape made up of straight line segments

quadrilateral A polygon with four sides and four angles



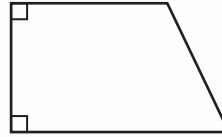
MODEL Classify Quadrilaterals

Use sides and angles to name this quadrilateral.

STEP 1 There are 2 right angles.

STEP 2 There is exactly 1 pair of opposite sides that are parallel.

So, the quadrilateral is a trapezoid.



Tips

Checking Angles

The corner of a sheet of paper or an index card can be used to check whether an angle in a polygon is *right*, *less than a right angle*, or *greater than a right angle*.

Activity

Point out everyday objects that resemble plane shapes, such as books, photos, windows, and traffic signs. Have your child identify the shape and describe it by its sides and angles.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos sobre figuras planas. Aprenderemos a identificar polígonos y a describirlos según sus lados y ángulos.

Llevaré a casa tareas para practicar con figuras.

Este es un ejemplo de cómo clasificaremos cuadriláteros.

Vocabulario

ángulo Una figura compuesta por dos rayos que comparten un extremo

figura cerrada Una figura que comienza y termina en el mismo punto

polígono Una figura plana cerrada compuesta por segmentos rectos

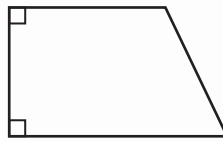
cuadrilátero Un polígono con cuatro lados y cuatro ángulos

MODELO Clasificar cuadriláteros

Usa los lados y los ángulos para nombrar este cuadrilátero.

PASO 1 Hay dos ángulos rectos.

PASO 2 Hay exactamente 1 par de lados opuestos que son paralelos.



Por tanto, el cuadrilátero es un trapecio.

Pistas

Comprobar ángulos

Puedes usar la esquina de una hoja o de una tarjeta para comprobar si un ángulo de un polígono es *recto*, *menor que un ángulo recto* o *mayor que un ángulo recto*.

Actividad

Señalen objetos cotidianos que parezcan figuras planas, como libros, fotografías, ventanas y señales de tráfico. Pida a su hijo o hija que identifique la figura y que la describa según sus lados y ángulos.

Name _____

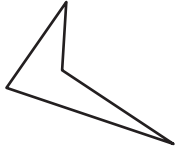
Describe Plane Shapes



COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

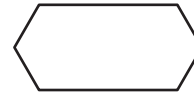
Write how many line segments the shape has.

1.



4 line segments

2.



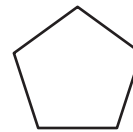
_____ line segments

3.



_____ line segments

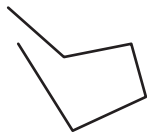
4.



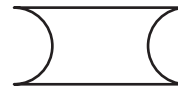
_____ line segments

Write whether the shape is *open* or *closed*.

5.



6.



Problem Solving

7. Carl wants to show a closed shape in his drawing. Show and explain how to make the drawing a closed shape.

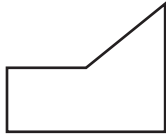


8. The shape of a fish pond at a park is shown below. Is the shape open or closed?



Lesson Check (3.G.1)

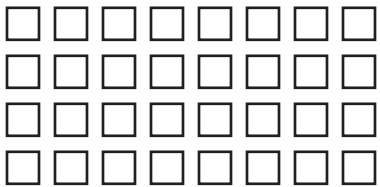
1. How many line segments does this shape have?



2. What is part of a line, has one endpoint, and continues in one direction?

Spiral Review (3.OA.3, 3.OA.7, 3.NF.3a)

3. What multiplication sentence does the array show?



4. What is the unknown factor and quotient?

$$9 \times \square = 27$$

$$27 \div 9 = \square$$

5. What fraction is equivalent to $\frac{4}{8}$?



6. Mr. MacTavish has 30 students from his class going on a field trip to the zoo. He is placing 6 students in each group. How many groups of students from Mr. MacTavish's class will be going to the zoo?

Name _____

Describe Angles in Plane Shapes



COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

Use the corner of a sheet of paper to tell whether the angle is a *right angle*, *less than a right angle*, or *greater than a right angle*.



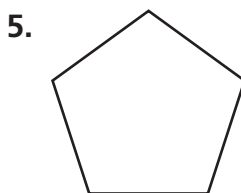
less than a
right angle



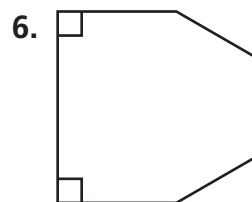
Write how many of each type of angle the shape has.



_____ right
_____ less than a right
_____ greater than
a right



_____ right
_____ less than a right
_____ greater than
a right



_____ right
_____ less than a right
_____ greater than
a right

Problem Solving



7. Jeff has a square piece of art paper. He cuts across it from one corner to the opposite corner to make two pieces. What is the total number of sides and angles in both of the new shapes?

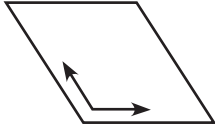
8. Kaylee tells Aimee that the shape of a stop sign has at least one right angle. Aimee says that there are no right angles. Who is correct? **Explain.**



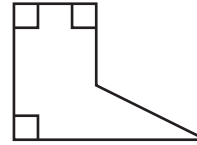
Lesson Check (3.G.1)

1. What describes this angle?

Write *right angle*, *less than a right angle*, or *greater than a right angle*.

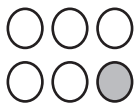


2. How many right angles does this shape have?



Spiral Review (3.NF.1, 3.NF.3d, 3.G.1)

3. What fraction of the group is shaded?



4. Compare.



5. What is straight, continues in both directions, and does not end?

6. How many line segments does this shape have?



Name _____

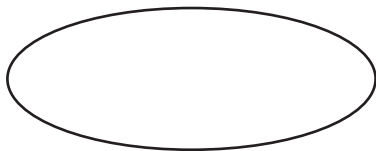
Identify Polygons



COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

Is the shape a polygon? Write *yes* or *no*.

1.

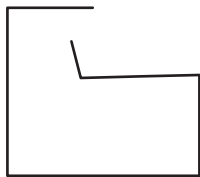


no

2.



3.

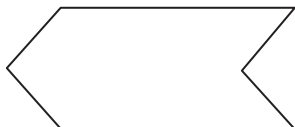


4.



Write the number of sides and the number of angles. Then name the polygon.

5.



_____ sides

_____ angles

6.



_____ sides

_____ angles

Problem Solving

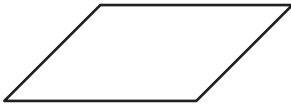


7. Mr. Murphy has an old coin that has ten sides. If its shape is a polygon, how many angles does the old coin have?

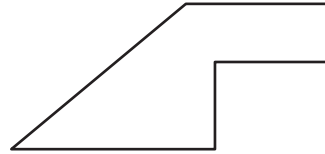
8. Lin says that an octagon has six sides. Chris says that it has eight sides. Whose statement is correct?

Lesson Check (3.G.1)

1. What is a name for this polygon?



2. How many sides does this polygon have?



Spiral Review (3.NF.1, 3.G.1)

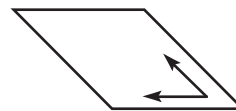
3. How many right angles does this shape have?



4. Erica has 8 necklaces. One fourth of the necklaces are blue. How many necklaces are blue?

5. What is straight, is part of a line, and has 2 endpoints?

6. What describes this angle?
Write *right angle*, *less than a right angle*, or *greater than a right angle*.



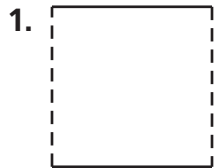
Name _____

Describe Sides of Polygons

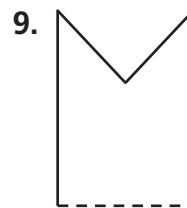
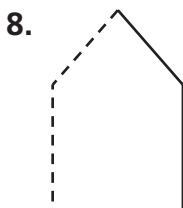
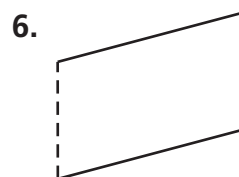
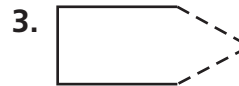


COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

Look at the dashed sides of the polygon. Tell if they appear to be *intersecting*, *perpendicular*, or *parallel*. Write all the words that describe the sides.



parallel



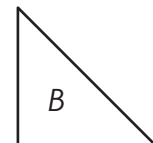
Problem Solving



Use shapes A–D for 10–11.

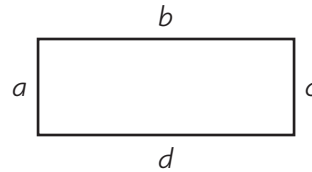
10. Which shapes appear to have parallel sides?

11. Which shapes appear to have perpendicular sides?



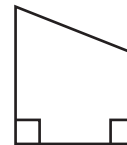
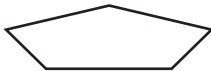
Lesson Check (3.G.1)

1. How many pairs of parallel sides does the quadrilateral appear to have?
2. Which sides appear to be parallel?



Spiral Review (3.NF.1, 3.G.1)

3. Mr. Lance designed a class banner shaped like the polygon shown. What is the name of the polygon?
4. How many angles greater than a right angle does this shape have?



5. How many line segments does this shape have?
6. What fraction names the shaded part?



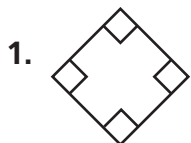
Name _____

Classify Quadrilaterals



COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

Circle all the words that describe the quadrilateral.



- square
- rectangle
- rhombus
- trapezoid

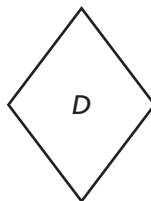
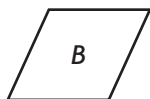
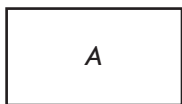


- square
- rectangle
- rhombus
- trapezoid



- square
- rectangle
- rhombus
- trapezoid

Use the quadrilaterals below for 4–6.



4. Which quadrilaterals appear to have no right angles?

5. Which quadrilaterals appear to have 4 right angles?

6. Which quadrilaterals appear to have 4 sides of equal length?

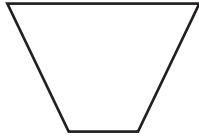
Problem Solving

7. A picture on the wall in Jeremy’s classroom has 4 right angles, 4 sides of equal length, and 2 pairs of opposite sides that are parallel. What quadrilateral best describes the picture?

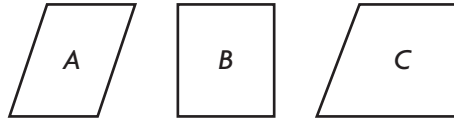
8. Sofia has a plate that has 4 sides of equal length, 2 pairs of opposite sides that are parallel, and no right angles. What quadrilateral best describes the plate?

Lesson Check (3.G.1)

1. What word describes the quadrilateral?

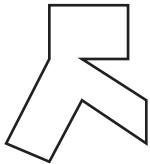


2. Which quadrilaterals appear to have 2 pairs of opposite sides that are parallel?

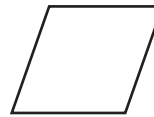


Spiral Review (3.G.1)

3. Aiden drew the the polygon shown. What is the name of the polygon he drew?



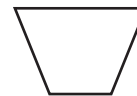
4. How many pairs of parallel sides does this shape appear to have?



5. What word describes the dashed sides of the shape shown?



6. How many right angles does this shape have?



Name _____

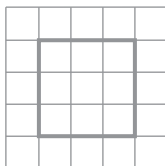
Draw Quadrilaterals



COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

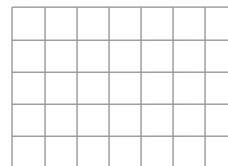
Draw a quadrilateral that is described.
Name the quadrilateral you drew.

1. 4 sides of equal length



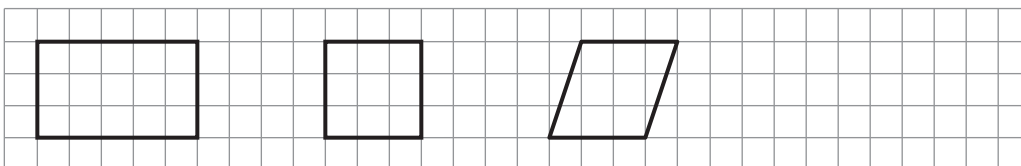
square

2. 1 pair of opposite sides that are parallel



Draw a quadrilateral that does not belong.
Then explain why.

3.



Problem Solving



4. Layla drew a quadrilateral with 4 right angles and 2 pairs of opposite sides that are parallel. Name the quadrilateral she could have drawn.

5. Victor drew a quadrilateral with no right angles and 4 sides of equal length. What quadrilateral could Victor have drawn?

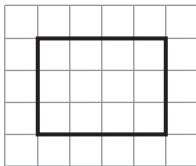
Lesson Check (3.G.1)

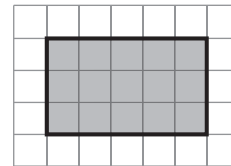
1. Chloe drew a quadrilateral with 2 pairs of opposite sides that are parallel. Name a shape that could be Chloe's quadrilateral?
2. Mike drew a quadrilateral with four right angles. What shape could he have drawn?

Spiral Review (3.MD.7, 3.MD.8, 3.G.1)

3. A quadrilateral has 4 right angles and 4 sides of equal length. What is the name of the quadrilateral?
4. Mark drew two lines that form a right angle. What word describes the lines Mark drew?

5. Dennis drew the rectangle on grid paper. What is the perimeter of the rectangle Dennis drew?
6. Jill drew the rectangle on grid paper. What is the area of the rectangle Jill drew?





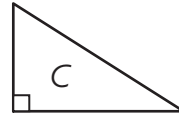
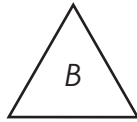
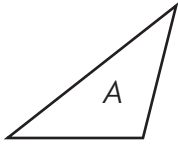
Name _____

Describe Triangles

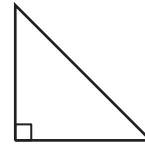


COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

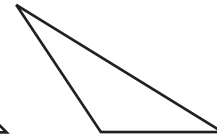
Use the triangles for 1–3. Write *A*, *B*, or *C*.
Then complete the sentences.



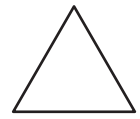
- Triangle **B** has 3 angles less than a right angle and appears to have **3** sides of equal length.
- Triangle _____ has 1 right angle and appears to have _____ sides of equal length.
- Triangle _____ has 1 angle greater than a right angle and appears to have _____ sides of equal length.
- Kyle, Kathy, and Kelly each drew a triangle. Who drew the triangle that has 1 angle greater than a right angle and appears to have no sides of equal length?



Kyle



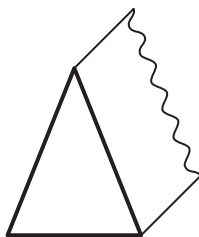
Kathy



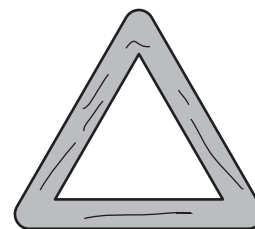
Kelly

Problem Solving

- Matthew drew the back of his tent. How many sides appear to be of equal length?

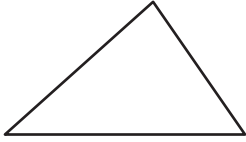


- Sierra made the triangular picture frame shown. How many angles are greater than a right angle?

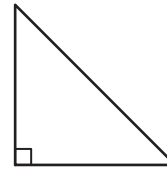


Lesson Check (3.G.1)

1. How many angles less than a right angle does this triangle have?



2. How many sides of equal length does this triangle appear to have?



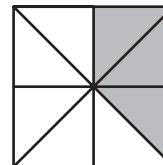
Spiral Review (3.NF.1, 3.MD.8, 3.G.1)

3. A quadrilateral has 4 right angles and 2 pairs of opposite sides that are parallel. What quadrilateral could it be?

4. Mason drew a quadrilateral with only one pair of opposite sides that are parallel. What quadrilateral did Mason draw?

5. What are the side lengths of a rectangle that has an area of 8 square units and a perimeter of 12 units?

6. What fraction of the square is shaded?



Name _____

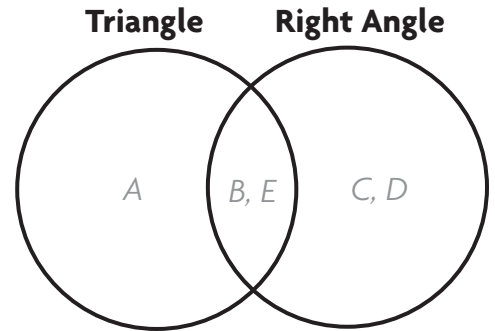
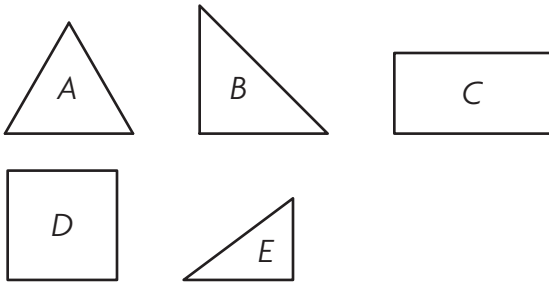
Problem Solving • Classify Plane Shapes



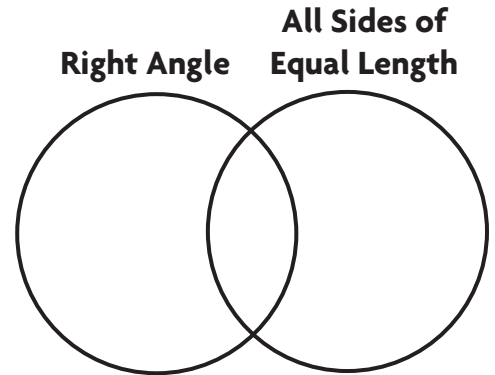
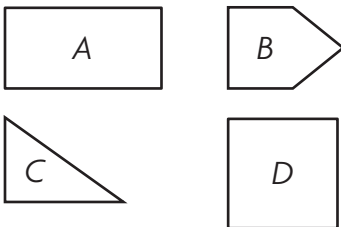
COMMON CORE STANDARD—3.G.1
Reason with shapes and their attributes.

Solve each problem.

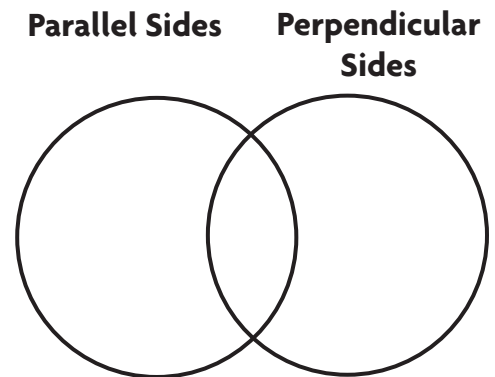
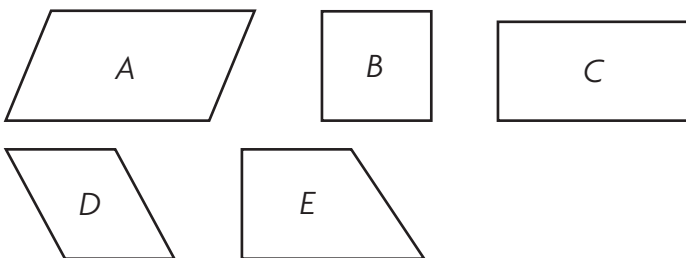
1. Steve drew the shapes below. Write the letter of each shape where it belongs in the Venn diagram.



2. Janice drew the shapes below. Write the letter of each shape where it belongs in the Venn diagram.



3. Beth drew the shapes below. Write the letter of each shape where it belongs in the Venn diagram.



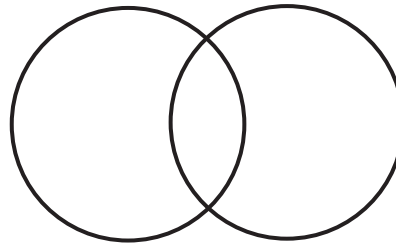
Lesson Check (3.G.1)

1. What shape would go in the section where the two circles overlap?

2. What quadrilateral could NOT go in the circle labeled *Polygons with All Sides Equal in Length*?

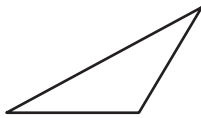
Quadrilaterals
with 4 Right
Angles

Polygons with
All Sides Equal
in Length

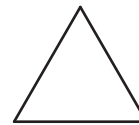


Spiral Review (3.NF.1, 3.G.1)

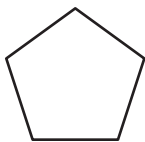
3. How many angles greater than a right angle does this triangle have?



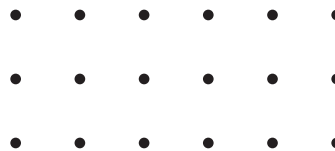
4. How many sides of equal length does this triangle appear to have?



5. Madison drew this shape. How many angles less than a right angle does it have?



6. How many dots are in $\frac{1}{2}$ of this group?



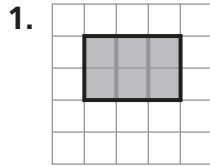
Name _____

Relate Shapes, Fractions, and Area

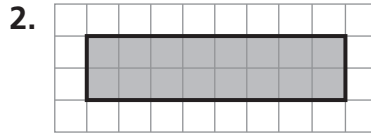


COMMON CORE STANDARD—3.G.2
Reason with shapes and their attributes.

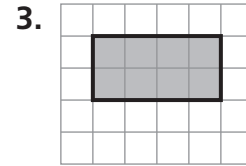
Draw lines to divide the shape into equal parts that show the fraction given.



$$\frac{1}{3}$$

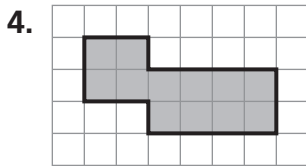


$$\frac{1}{8}$$

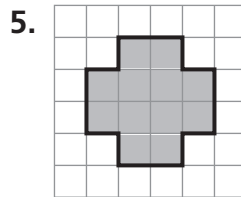


$$\frac{1}{2}$$

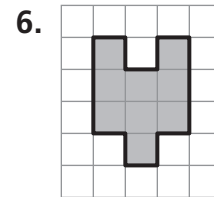
Draw lines to divide the shape into parts with equal area. Write the area of each part as a unit fraction.



4 equal parts



6 equal parts

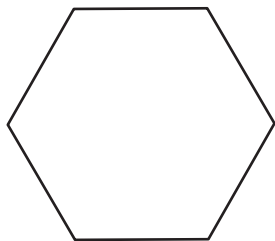


3 equal parts

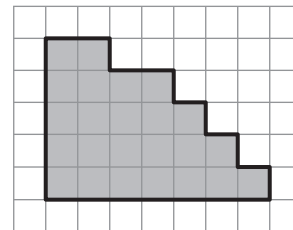
Problem Solving



7. Robert divided a hexagon into 3 equal parts. Show how he might have divided the hexagon. Write the fraction that names each part of the whole you divided.

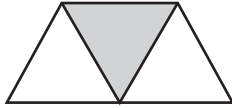


8. Show how you might divide the shape into 8 equal parts. What fraction names the area of each part of the divided shape?



Lesson Check (3.G.1)

1. What fraction names each part of the divided whole?
2. What fraction names the whole area that was divided?





Spiral Review (3.G.1)

3. Lil drew the figure below. Is the shape open or closed?
4. How many line segments does this shape have?





Use the Venn diagram for 5–6.

5. Where would a square be placed in the Venn diagram?

6. Where would a rectangle be placed in the Venn diagram?

Right Angle **All Sides of
Equal Length**

