



Third Grade Math

This packet includes four sections that cover the major content for 3rd grade math. Each section includes pages of notes and practice for each topic. For additional support, visit KCS TV on YouTube for instructional videos that accompany each section.

The following content is included in this packet:

	Topic			
	I. Geometry	II. Understanding the Relationship Between Multiplication and Division	III. Understanding Fractions	IV. Understanding Area
Activity 1	Identify Shapes	Connecting Multiplication and Division	Describing Parts of a Whole with Fractions	Finding the Area of Rectangles
Activity 2	Describe Shapes Based on Their Attributes	Using a Multiplication Table	Understand Fractions on a Number Line	Solving Problems Involving Area
Activity 3	Classifying Shapes Based on Their Attributes	Solving Word Problems Using Multiplication or Division	Understanding and Finding Equivalent Fractions	Solving Word Problems About Area

Objective: Understand properties of shapes.

A **polygon** is a two-dimensional closed shape that has 3 or more straight sides.

A **quadrilateral** is any shape with 4 sides and 4 angles.

You can name quadrilaterals using their attributes. An **attribute** is a way to describe a shape, like number of sides, or length of sides. One attribute is "4 sides." Another attribute is "at least 1 square corner."

A quadrilateral is a **parallelogram** if it has 2 pairs of parallel sides and 2 pairs of sides that are the same length. Sides are **parallel** if they are always the same distance apart.

A quadrilateral is a **rectangle** if it has 4 square corners. A rectangle also has 2 pairs of parallel sides and 2 pairs of sides that are the same length.

A quadrilateral is a **rhombus** if it has 2 pairs of parallel sides and 4 sides that are all the same length.

These are parallelograms:



These are rectangles:



These are rhombuses:



Study the examples showing how to identify shapes using sides and angles.

Example

Which of these shapes are quadrilaterals?

Triangles have 3 sides and 3 angles.

Quadrilaterals have 4 sides and 4 angles.

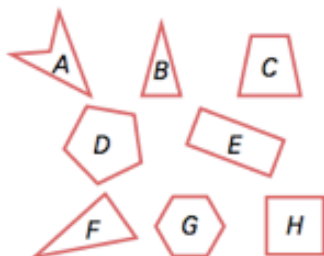
Pentagons have 5 sides and 5 angles.

Hexagons have 6 sides and 6 angles.

A, C, E, and H are quadrilaterals.

Polygons are two-dimensional closed shapes made with three or more straight lines.

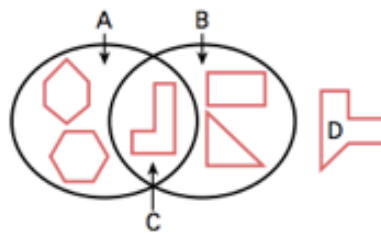
The shapes A-H are also polygons.



© Curriculum Associates, LLC

Example

Think about how the shapes in group A, group B, and group C are alike. Write names to describe the shapes in each group. Then look at shape D. Tell where in the diagram it belongs and why.



All the shapes in group A have 6 sides. They are hexagons.

All the shapes in group B have at least 1 square corner.

The shape in group C has both 6 sides and at least 1 square corner.

Shape D has 7 sides and some square corners. It belongs in group B.

All the shapes in each group are polygons.

Use the clues and shapes to solve the problems.

Activity 1

I have 4 sides. I am a parallelogram.

I have all square corners.

I am not a square.

I am shape _____ .

I am a _____ .

I am a quadrilateral.

I do not have any square corners.

My sides are all the same length.

I am shape _____ .

I am a _____ .

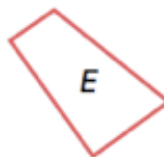
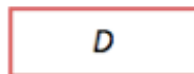
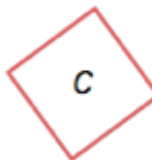
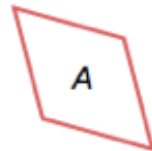
All of my corners are square corners.

Some of my sides are the same length.

I am not a quadrilateral.

I am shape _____ .

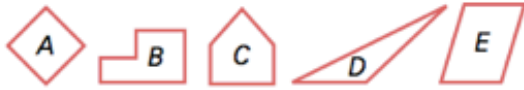
I am a _____ .



Draw a quadrilateral that has at least 3 square corners and 2 pairs of parallel sides. Write all of the possible names for your shape. Tell why the names fit.

Use these shapes below to complete the chart.

Activity 2



Fill in the chart to describe each shape.

Shape	Number of Sides	Number of Angles	Name of Shape
A			
B			
C			
D			
E			

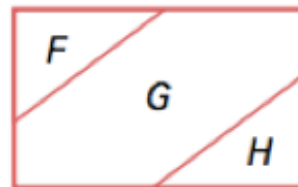
Draw and label a pentagon and a hexagon. Make them different than the shapes shown above.

Use the shapes on the right to complete the problems below.

Which shapes are triangles?

Shapes _____ and _____

What is the name of shape G? Tell how you know.



Draw a shape that is not a polygon. Tell how you know.

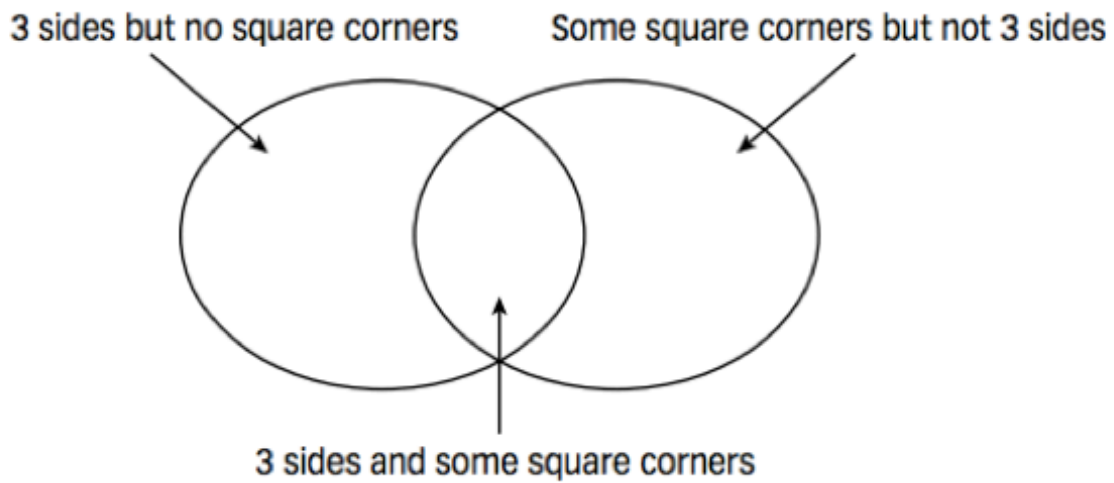
Activity 3

Complete the Venn diagram by drawing shapes to show which group or groups it belongs to.

Draw each of these shapes in the Venn diagram to show which group or groups it belongs to.



Draw in the diagram a different shape that belongs to the group "3 sides but no square corners."



Write the name of two different groups that each shape below belongs to.





Answer Key for Topic 1- Geometry

I have 4 sides. I am a parallelogram.
I have all square corners.
I am not a square.

I am shape D.

I am a rectangle.

I am a quadrilateral.
I do not have any square corners.
My sides are all the same length.

I am shape A.

I am a rhombus.

All of my corners are square corners.
Some of my sides are the same length.
I am not a quadrilateral.

I am shape B.

I am a hexagon.

Draw a quadrilateral that has at least 3 square corners and 2 pairs of parallel sides. Write all of the possible names for your shape. Tell why the names fit.

Possible drawing:



Students should realize that if this quadrilateral has at least 3 square corners, it must have 4 square corners. They draw a rectangle.

Possible explanation: The shape has 4 sides and 4 angles. It has opposite sides that are parallel and the same length. It has all the attributes of a quadrilateral, parallelogram, and rectangle.

Fill in the chart to describe each shape.

Shape	Number of Sides	Number of Angles	Name of Shape
A	4	4	Quadrilateral
B	6	6	Hexagon
C	5	5	Pentagon
D	3	3	Triangle
E	4	4	Quadrilateral

Draw and label a pentagon and a hexagon. Make them different than the shapes shown above.

Possible answer:

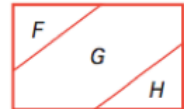


Which shapes are triangles?

Shapes F and H

What is the name of shape G? Tell how you know.

Shape G has 6 sides and 6 angles. It's a hexagon.



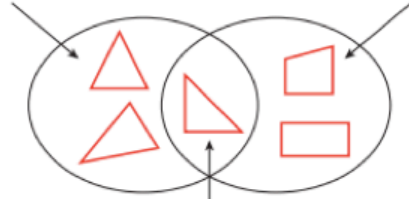
Draw a shape that is not a polygon. Tell how you know.

Possible answer:



Possible answer: This shape has straight lines but it is an open shape. Since it is not a closed shape with straight lines, it is not a polygon.

3 sides but no square corners Some square corners but not 3 sides



3 sides and some square corners

Write the name of two different groups that each shape below belongs to.



Possible group shown.

some sides the same length

4 angles



6 sides

all square corners