CLASSIFYING 2D FIGURES

TABLE OF CONTENTS

TO THE TEACHER

- This product is meant to be a no frills, all action tool for cementing the concept of classifying 2D figures in preparation for standardized testing.
- Each activity can be completed in a variety of ways to fit your classroom needs.
- It was created with the following standards in mind:
- TEKS
  - 5.5a classify two-dimensional figures in a hierarchy of sets and subsets using graphic organizers based on their attributes and properties
- Common Core
  - CCSS.MATH.CONTENT.5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all the subcategories of that category. For example, all rectangles have four right angles and squares are rectangles, so all squares have four right angles.
  - CCSS.MATH.CONTENT.5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.

PREP RECOMMENDATIONS

- Each activity is created in black and white to conserve color ink.
  - Using colored paper to differentiate different parts in each activity or the different stations will help students to stay organized.
- If you plan to use the activities for small group or partner activities over time, I would recommend laminating them for durability.

CONTENT VOCABULARY

classify

2D figures

sets

graphic organizers

properties

non-parallelogram

parallelogram

section

triangle

angles

perpendicular

vertex

use

hierarchy

subsets

attributes

polygon

quadrilateral

shape

rectangle

square

parallel

sides

vertices

classify

use

2D figures

hierarchy

sets

subsets

graphic organizers

attributes

properties

polygons

non-parallelograms

quadrilateral

parallelogram

shape

section

rectangle

triangle

square

angles

parallel

perpendicular

sides

vertex

vertices

SHAPE SORT

Sort the shapes based on their attributes as being either not a polygon, a triangle, a quadrilateral, or a polygon.

TEACHER SUGGESTIONS

SHAPE SORT

- In this activity students are asked to sort two dimensional figures as triangles, quadrilaterals, polygons, or not polygons.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - Independently to assess

Materials

Included:
- Geometric Figures
- Sorting Mat
- Recording Sheet
- Answer Key

Not Included:
- Pencil

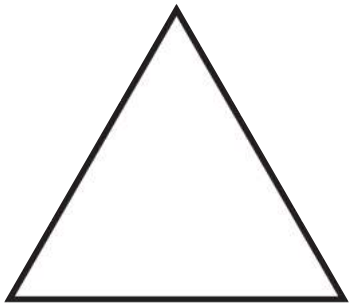
TRIANGLES

QUADRILATERALS

POLYGONS

NOT POLYGONS

A



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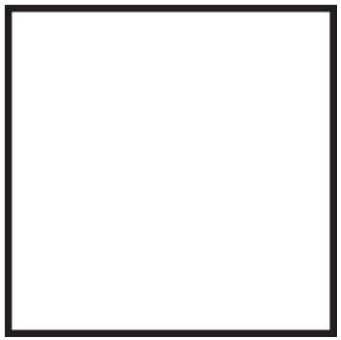

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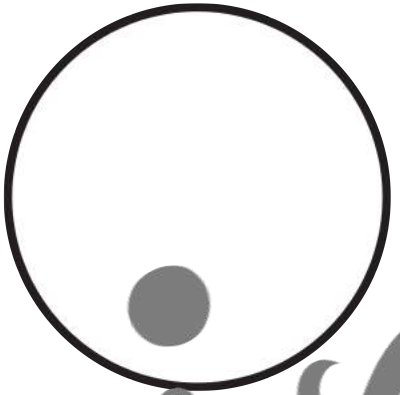

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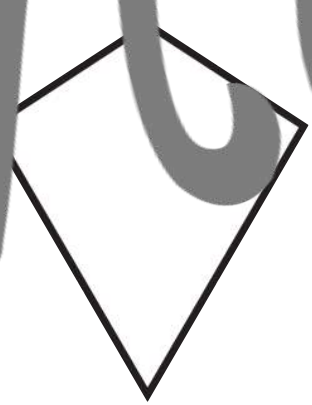

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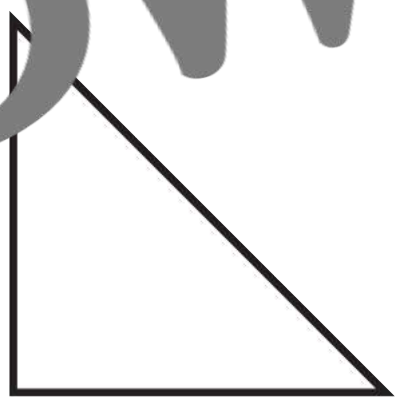

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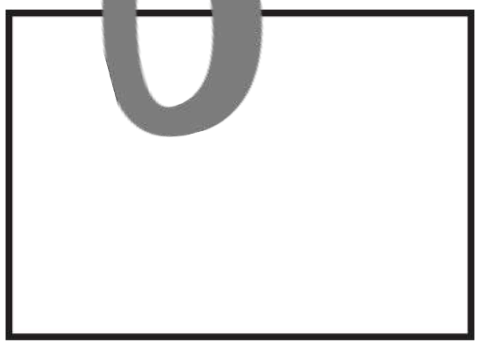

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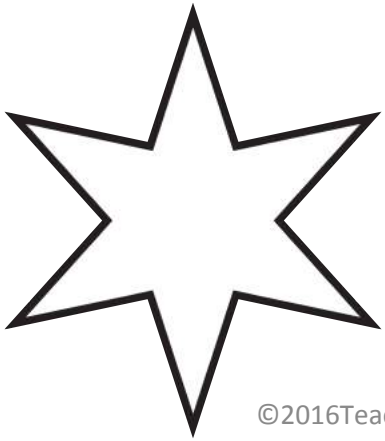

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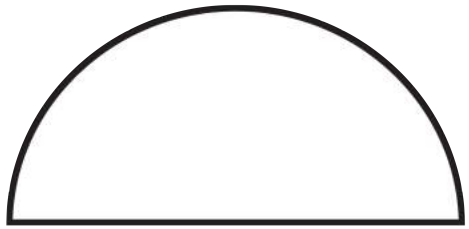

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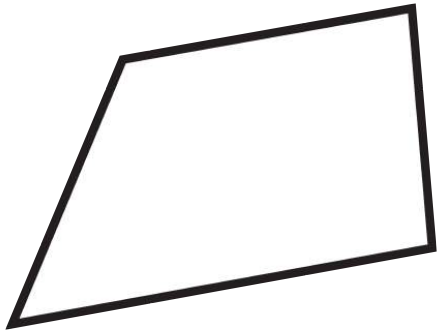

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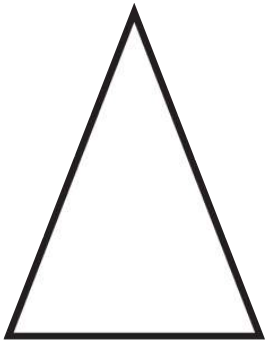

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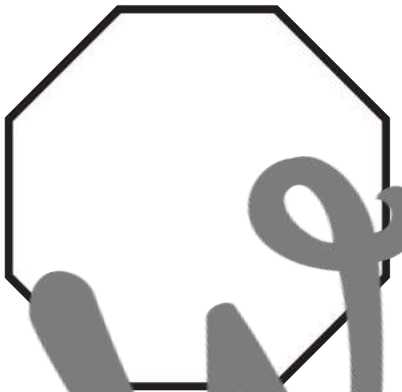

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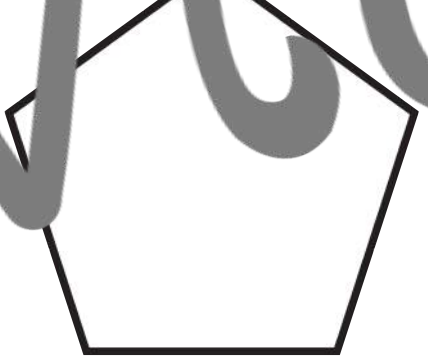

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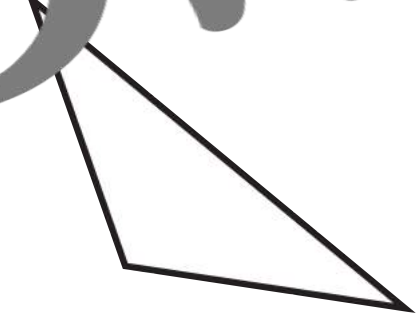

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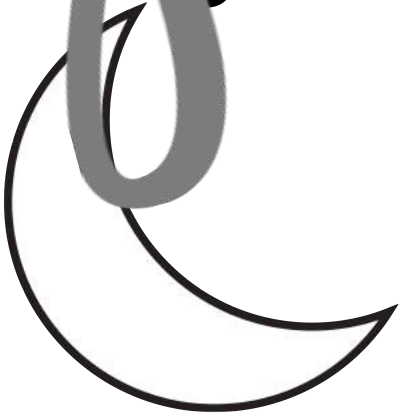

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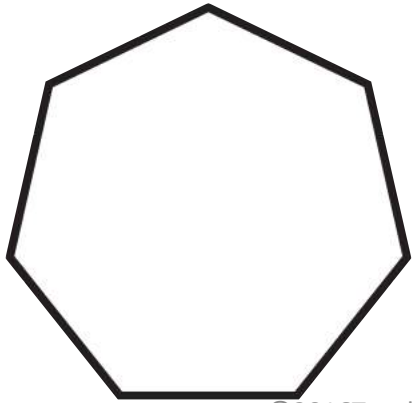

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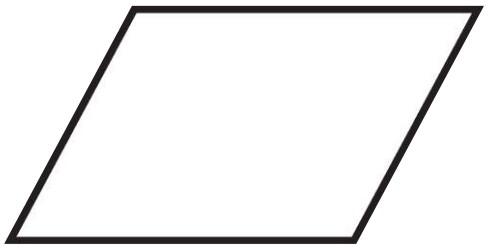

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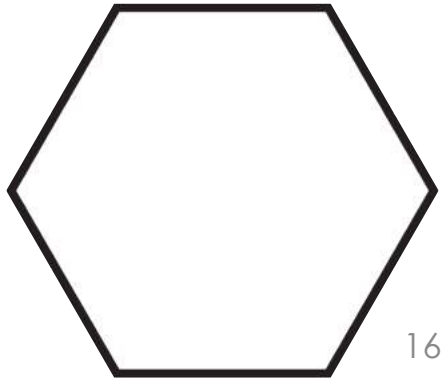


Name _____ #_____ Date_____

TWO DIMENSIONAL SHAPE SORT RESPONSE SHEET

Sort each shape as a triangle, quadrilateral, polygon, or not a polygon.

Triangle	Quadrilateral	Polygon	Not a Polygon

TWO DIMENSIONAL SHAPE SORT ANSWER KEY

Triangle	Quadrilateral	Polygon	Not a Polygon
A	B	D	C
H	G	J	E
M	I	O	F
T	L	P	K
	N	S	R
	Q	V	U
	W	X	

CLASSIFYING QUADRILATERALS

Complete the bracket of quadrilaterals by comparing their attributes.

TEACHER SUGGESTIONS
CLASSIFYING QUADRILATERALS

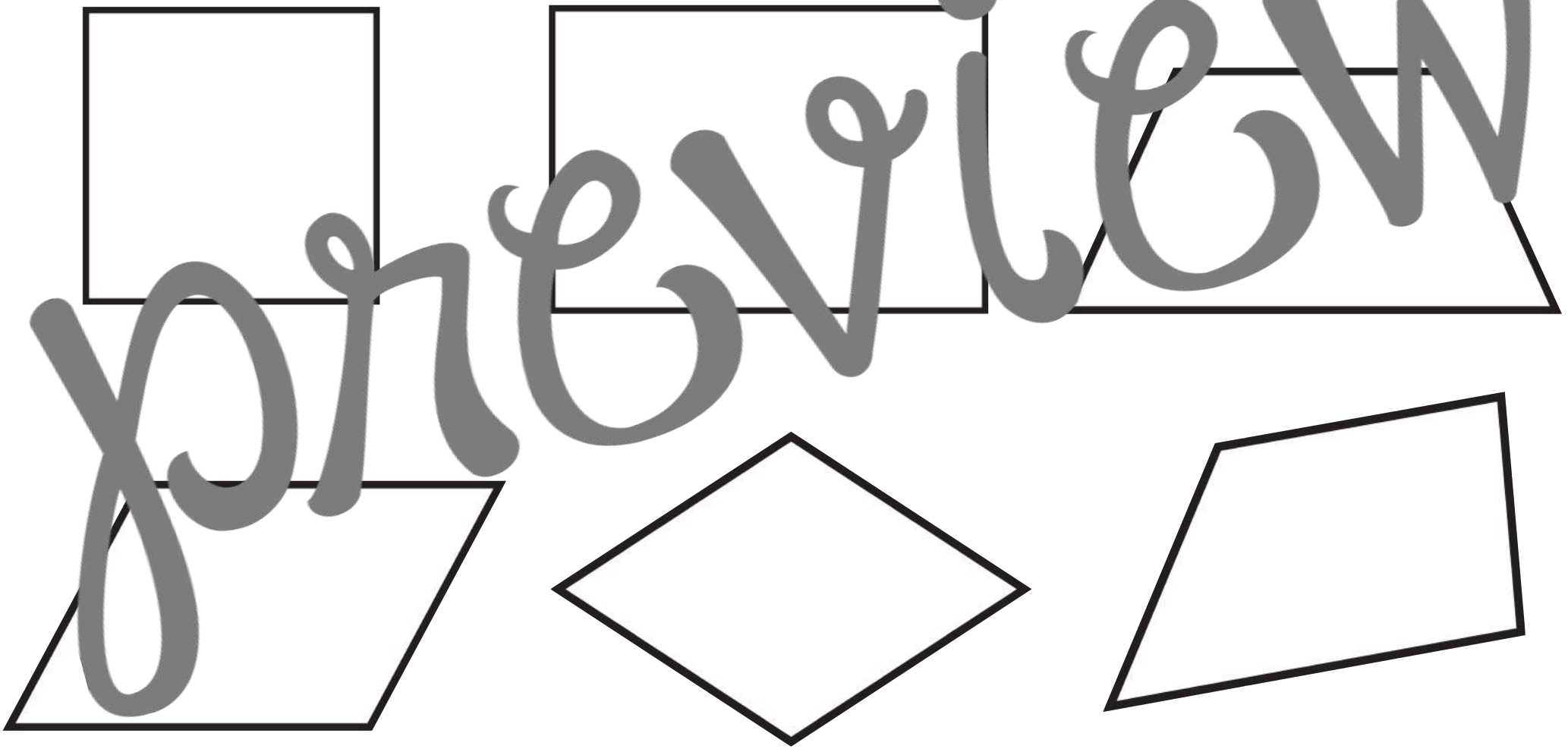
- In this activity students are asked to complete a bracket map by classifying the quadrilaterals by their attributes.
- This activity can be used as a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ Partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Quadrilaterals Bracket Map
- Recording Sheet
- Answer Key

Not Included:
- Pencil

Use each of the figures below as models to complete the bracket map. Make sure to label each figure with their name.



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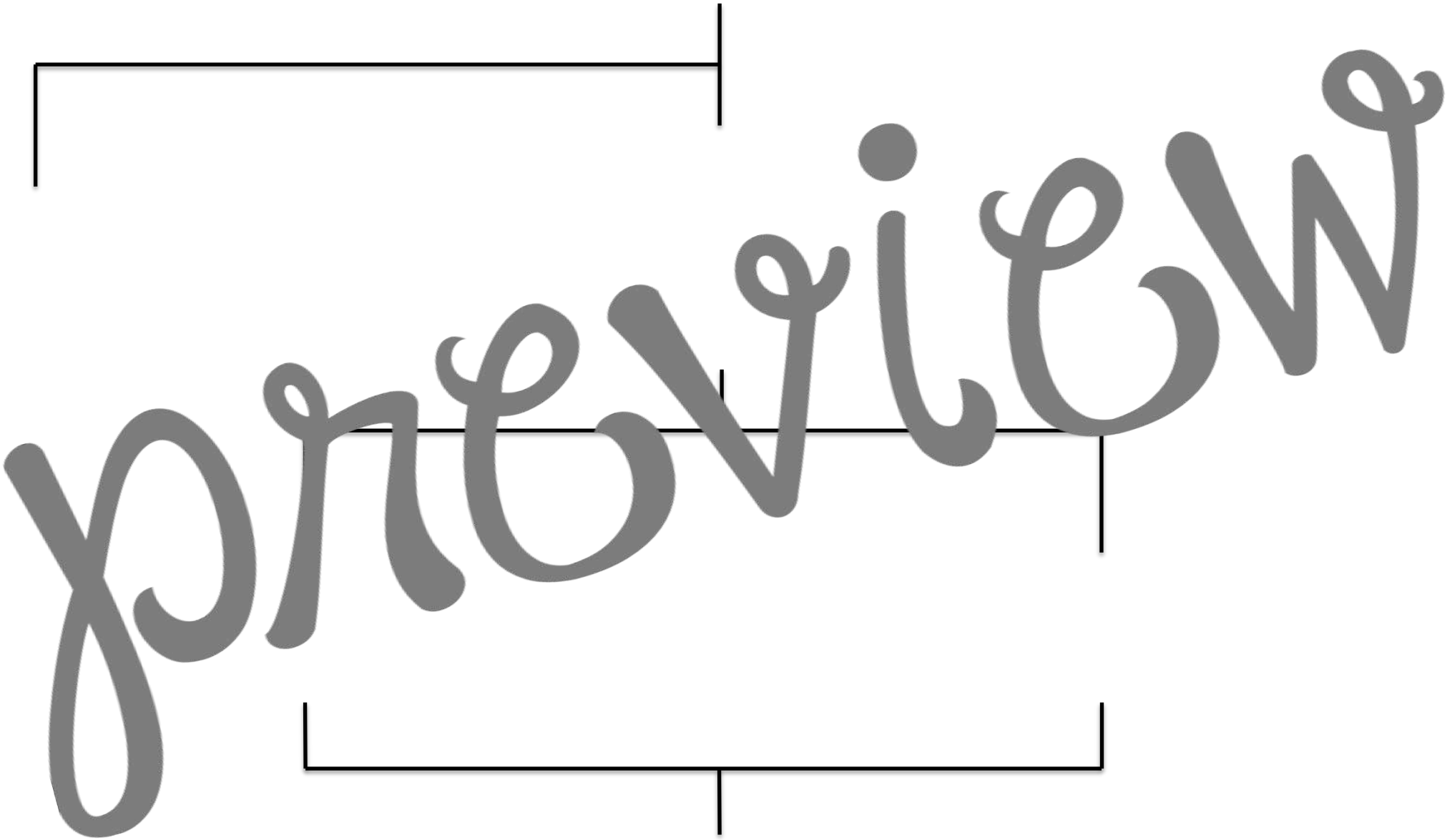
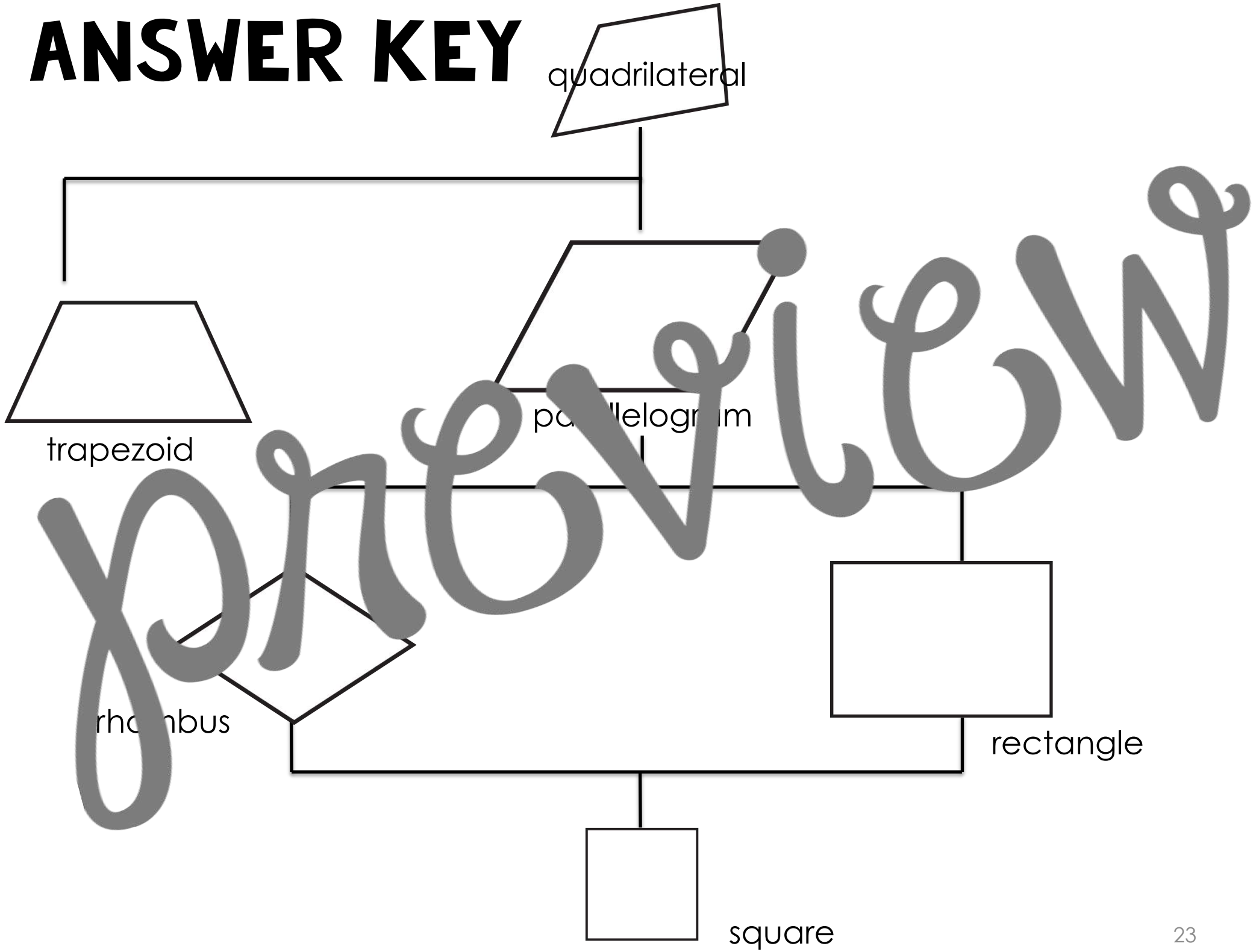


ANSWER KEY



IDENTIFYING ATTRIBUTES

Identify the attributes of each figure, and then record them on the response sheet.

TEACHER SUGGESTIONS IDENTIFY 2D ATTRIBUTES

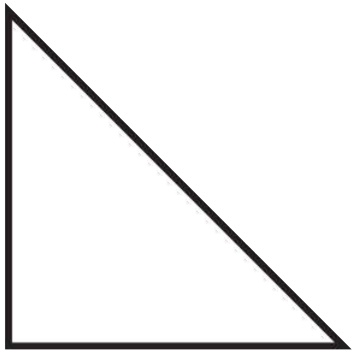
- In this activity students are asked to name each figure and identify the lines and angles in each 2D figure.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - Independently to assess

Materials

Included:
- 2D Figure Cards
- Recording Sheet
- Answer Key

Not Included:
- Pencil

1



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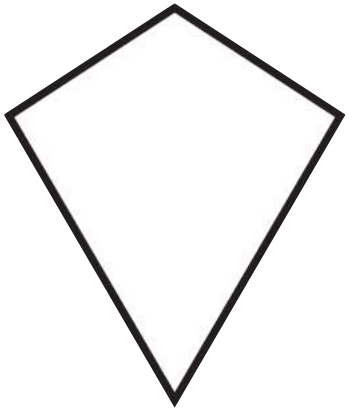

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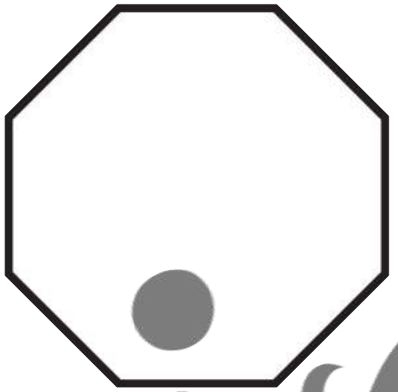

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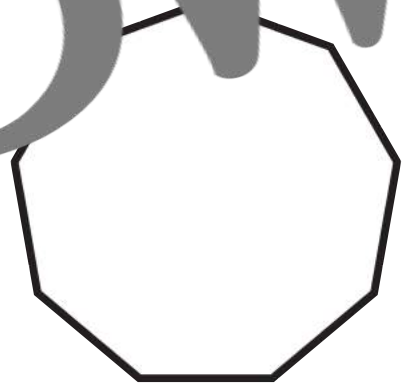

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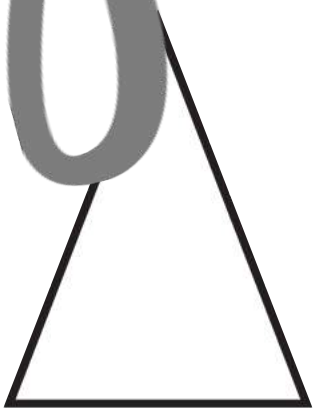

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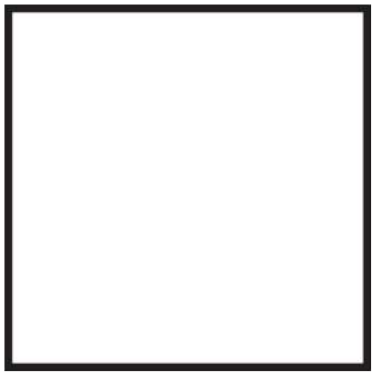

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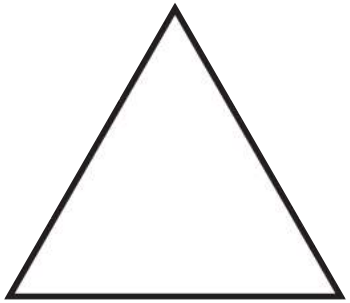


Name _____ #_____ Date_____

IDENTIFYING ATTRIBUTES RESPONSE SHEET

Name each figure and identify its attributes.

1	2	3
4	5	6
7	8	9
10	11	12

IDENTIFYING ATTRIBUTES ANSWER KEY

1 triangle 3 sides 3 angles (one right, two acute) one set of perpendicular lines	**2** kite/quadrilateral 4 sides (2 sets equilateral) 4 angles(2 acute and 2 obtuse)	**3** octagon 8 sides (all equilateral) 8 angles (all obtuse)
4 pentagon 5 sides (all equilateral) 5 angles (all obtuse)	**5** quadrilateral 4 sides 4 angles (2 acute and 2 obtuse)	**6** parallelogram 4 sides (2 sets of parallel equilateral lines) 4 angles (2 obtuse and 2 acute)
7 trapezoid 4 sides (1 set of parallel lines) 4 angles (2 acute and 2 obtuse)	**8** nonagon 9 sides (equilateral) 9 angles (all obtuse)	**9** triangle 3 sides (two are equilateral) 3 angles (all acute)
10 square 4 sides (all equilateral, opposite sides are parallel, four sets of perpendicular lines) 4 angles (all right)	**11** rectangle 4 sides (opposite sides are equilateral and parallel, 4 sets of perpendicular lines) 4 angles (all right)	**12** triangle 3 sides (all equilateral) 3 angles (all acute)

DESCRIPTION MATCH

Match each figure to the description of its attributes.

TEACHER SUGGESTIONS DESCRIPTION MATCH

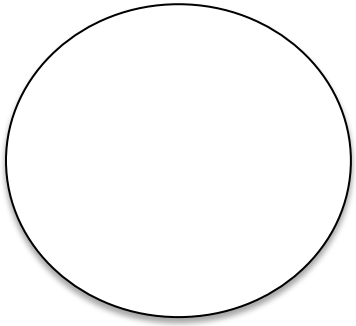
- In this activity students are asked to match each figure to its attribute description.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ As another activity for practice
  - ✓ Independently to assess

Materials

Included:
- Figures
- Attribute Descriptions
- Recording Sheet
- Answer Key

Not Included:
- Pencil

1



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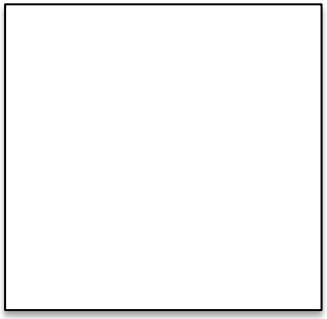

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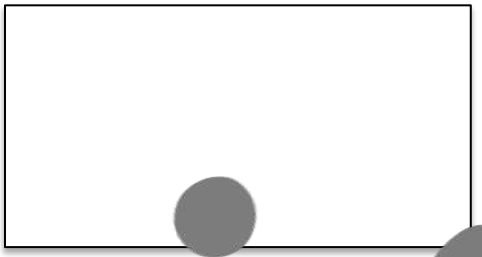

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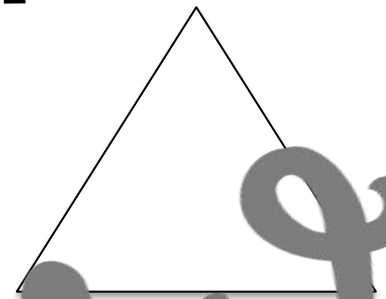

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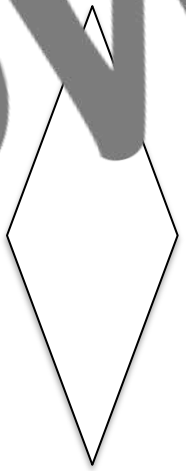

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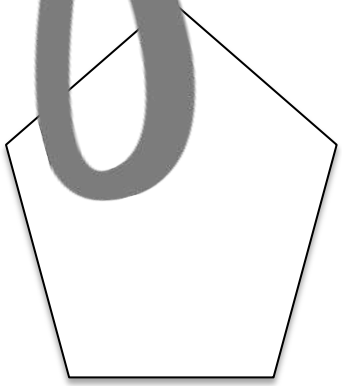

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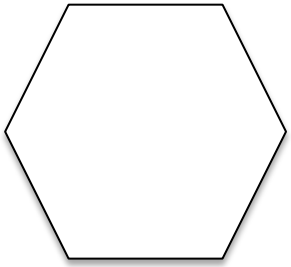

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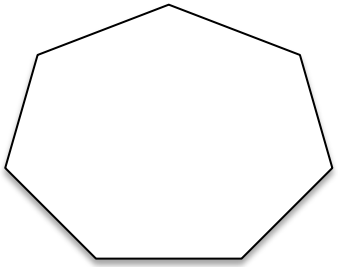

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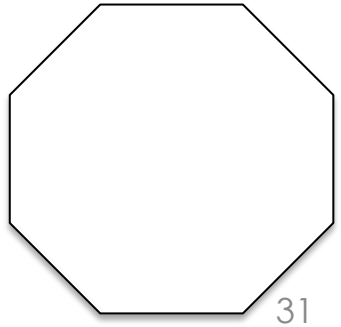


A NOT A POLYGON, ALL POINTS ARE EQUIDISTANT FROM THE CENTER POINT	**G** FOUR SIDED POLYGON WITH FOUR RIGHT ANGLES AND 4 EQUILATERAL SIDES	**K** FOUR SIDED POLYGON WITH OPPOSITE SIDES PARALLEL AND EQUILATERAL ALSO HAS FOUR RIGHT ANGLES	**H** A THREE SIDED POLYGON WITH EQUILATERAL SIDES AND THREE ACUTE ANGLES
C A THREE SIDED POLYGON WITH ONE RIGHT ANGLE AND TWO ACUTE ANGLES	**E** FOUR SIDED POLYGON WITH OPPOSITE SIDES PARALLEL AND NO RIGHT ANGLES	**J** A FOUR SIDED POLYGON WITH ONE PAIR OF PARALLEL LINES AND NO RIGHT ANGLES	**D** A FOUR SIDED POLYGON WITH FOUR EQUILATERAL SIDES AND NO RIGHT ANGLES
L A FIVE SIDED POLYGON WITH FIVE OBTUSE ANGLES	**B** A SIX SIDED POLYGON WITH SIX OBTUSE ANGLES	**I** A SEVEN SIDED POLYGON WITH SEVEN OBTUSE ANGLES	**F** AN EIGHT SIDED POLYGON WITH EIGHT OBTUSE ANGLES

Name _____ #_____ Date_____

DESCRIPTION MATCH RESPONSE SHEET

Match each figure to its attribute description.

1	2	3
4	5	6
7	8	9
10	11	12

DESCRIPTION MATCH ANSWER KEY

1A	2G	3K
4H	5C	6E
7J	8D	9L
10B	11I	12F

QR CODES

Scan the "START" card and follow the directions to use all cards stopping at the "END" card.

TEACHER SUGGESTIONS

QR CODES

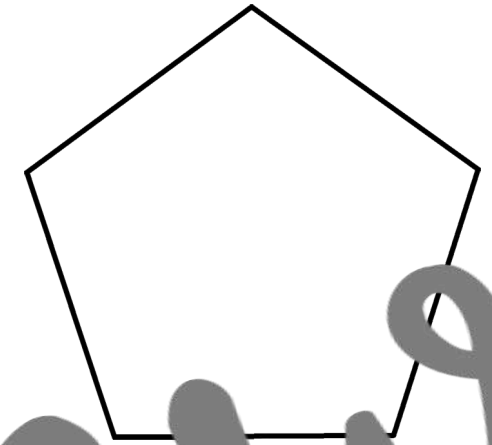
- In this activity students are asked to scan QR codes and follow the directions by finding the described figure.
- This activity can be used in a variety of ways
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - ✓ Independently to assess

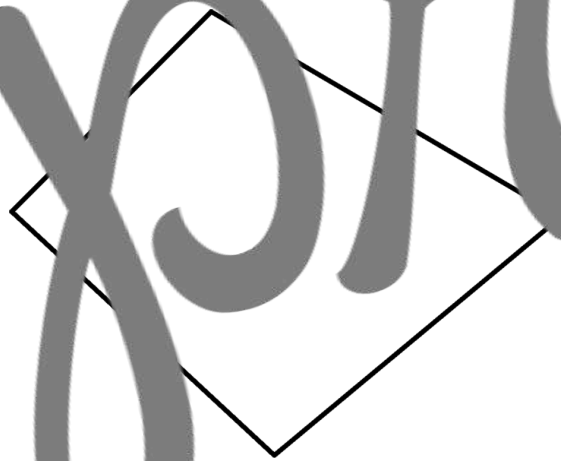
Materials

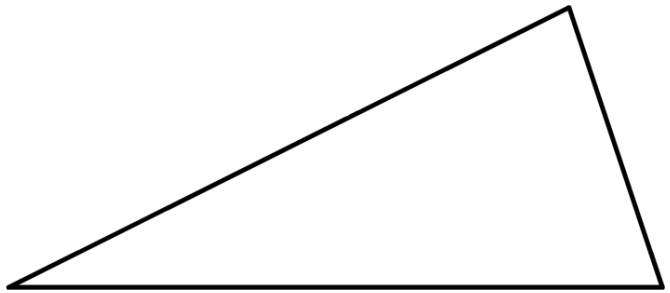
Included:
- QR Code Cards

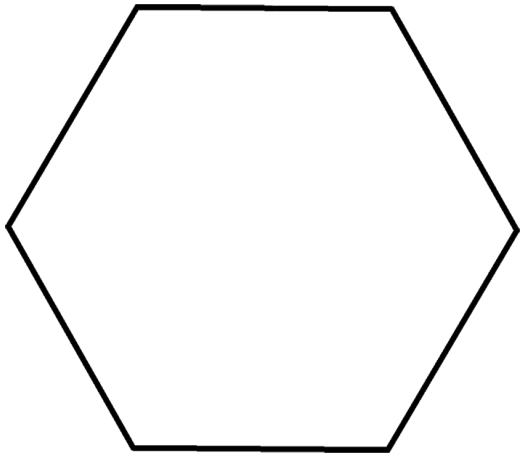
Not Included:
- A device capable of scanning QR Codes such as a smartphone or tablet

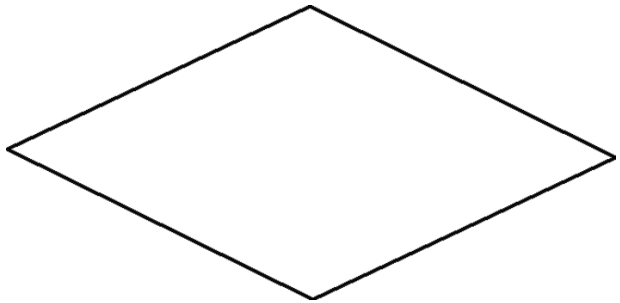
START

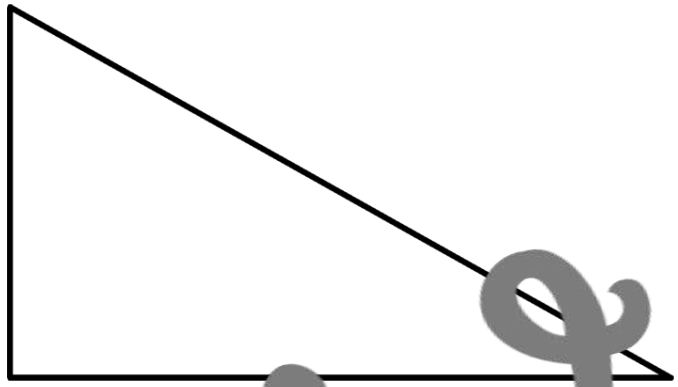


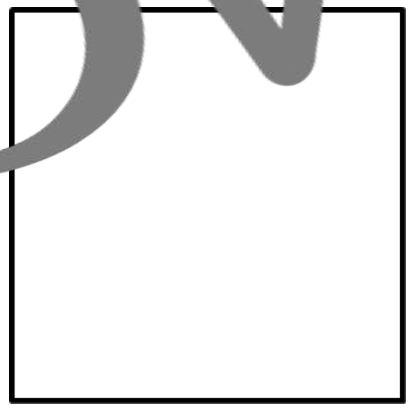


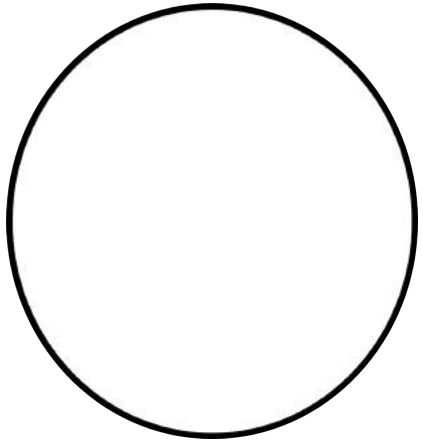












END

MATCH MINE

Create a drawing out of 2D figures. Then write a procedural text describing your drawing so that a friend could recreate the same drawing.

TEACHER SUGGESTIONS MATCH MINE

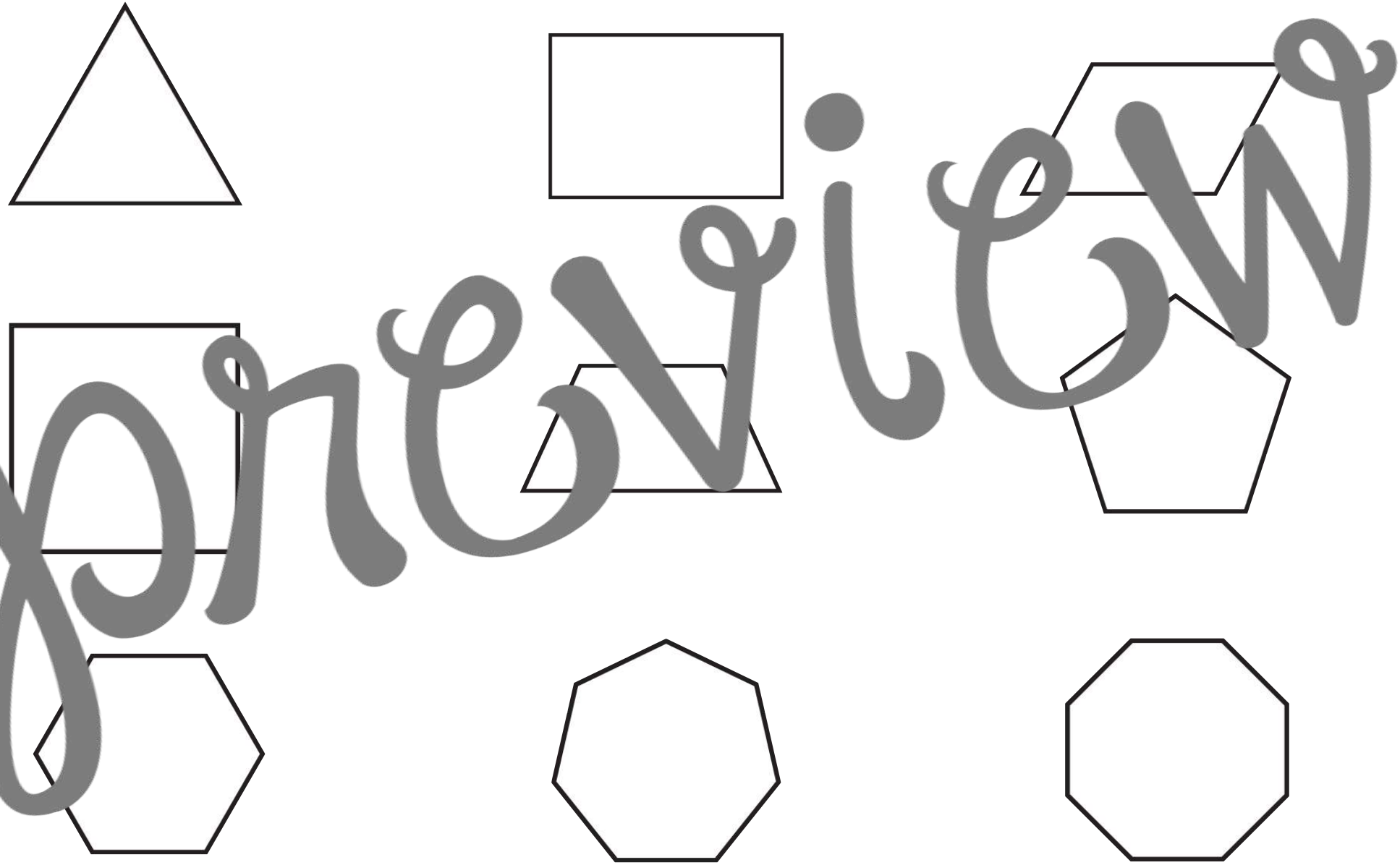
- In this activity students are asked to create a drawing out of 2D figures then write a procedural text describing their drawing so that someone else could recreate it.
- This activity could be used in a variety of ways:
  - Small group with teacher guidance
  - A partner activity for practice
  - Independently to assess

Materials

Included:
- Shapes for tracing
  - If using these, I would recommend copying on cardstock
- Recording Sheet

Not Included:
- Pencil
- Answer Key

GEOMETRIC SHAPES FOR TRACING



Name _____ #_____ Date_____

MATCH MINE RESPONSE SHEET

Use the geometric figures to create a drawing, and then write a procedural text describing your drawing so that someone else could recreate it.

POLYGON SPIN

Use the spinner to determine the traits for a polygon, and then sketch it on the recording sheet.

TEACHER SUGGESTIONS
POLYGON SPIN

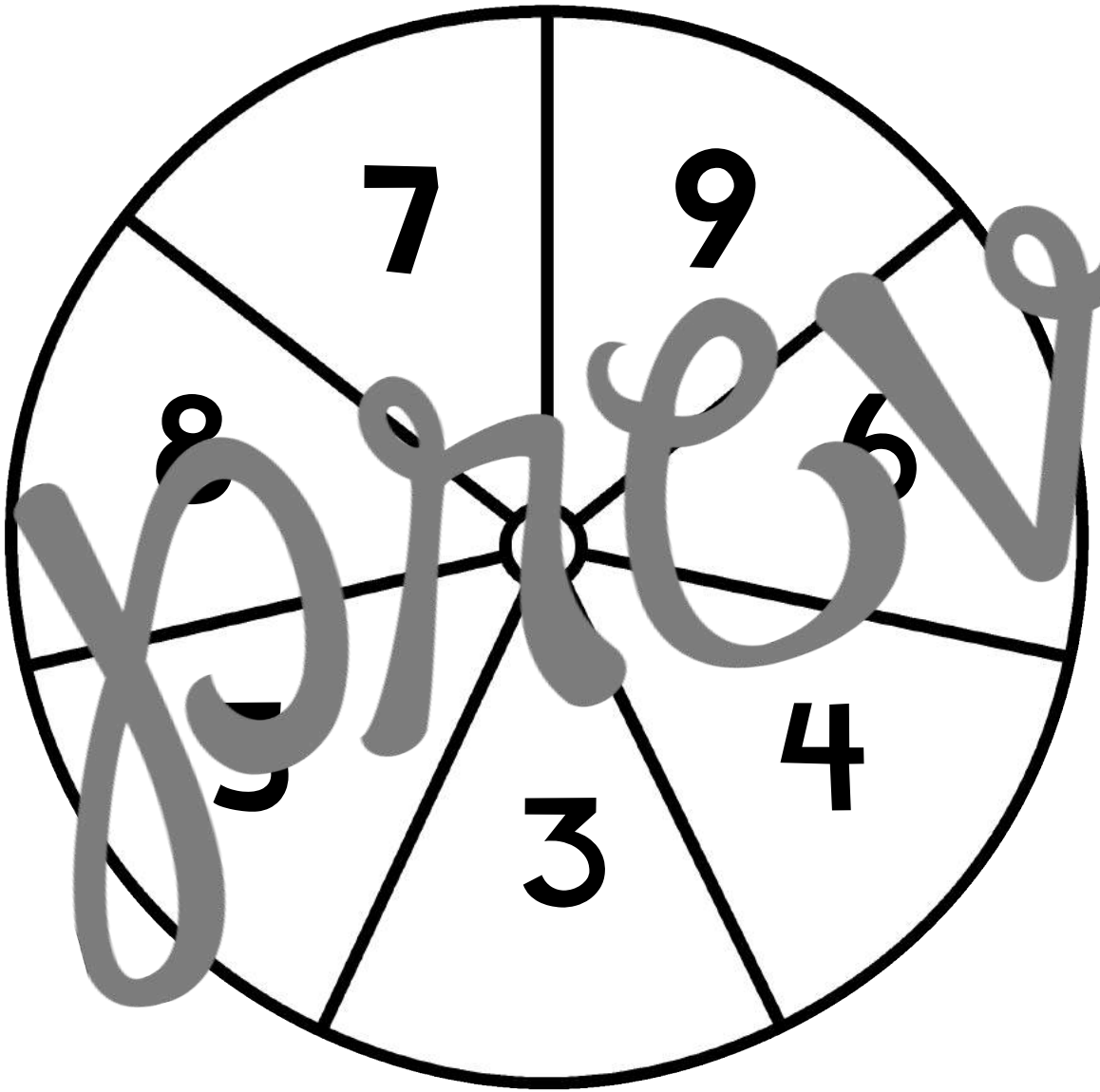
- In this activity students are asked to use a spinner to determine the attributes for a polygon, and then sketch it on their recording sheet.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - A partner activity for practice
  - ✓ Independently to assess

Materials

Included:
- Attribute Spinner
- Recording Sheet

Not Included:
- Pencil
- Answer Key

POLYGON SPIN



SPIN TO DETERMINE THE NUMBER OF SIDES OF A POLYGON. THEN SKETCH THE POLYGON AND IDENTIFY ITS ATTRIBUTES.

Name _____ #_____ Date_____

POLYGON SPIN RESPONSE SHEET

Spin to determine the number of sides of a polygon. Then sketch the polygon and identify its attributes.

1	2	3
4	5	6
7	8	9

BOARD GAME

Play a game to answer questions about 2D figures.

TEACHER SUGGESTIONS BOARD GAME

- In this activity students are asked to play a board game that requires them to answer questions about 2D figures.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - A partner activity for practice
  - ✓ Independently to assess

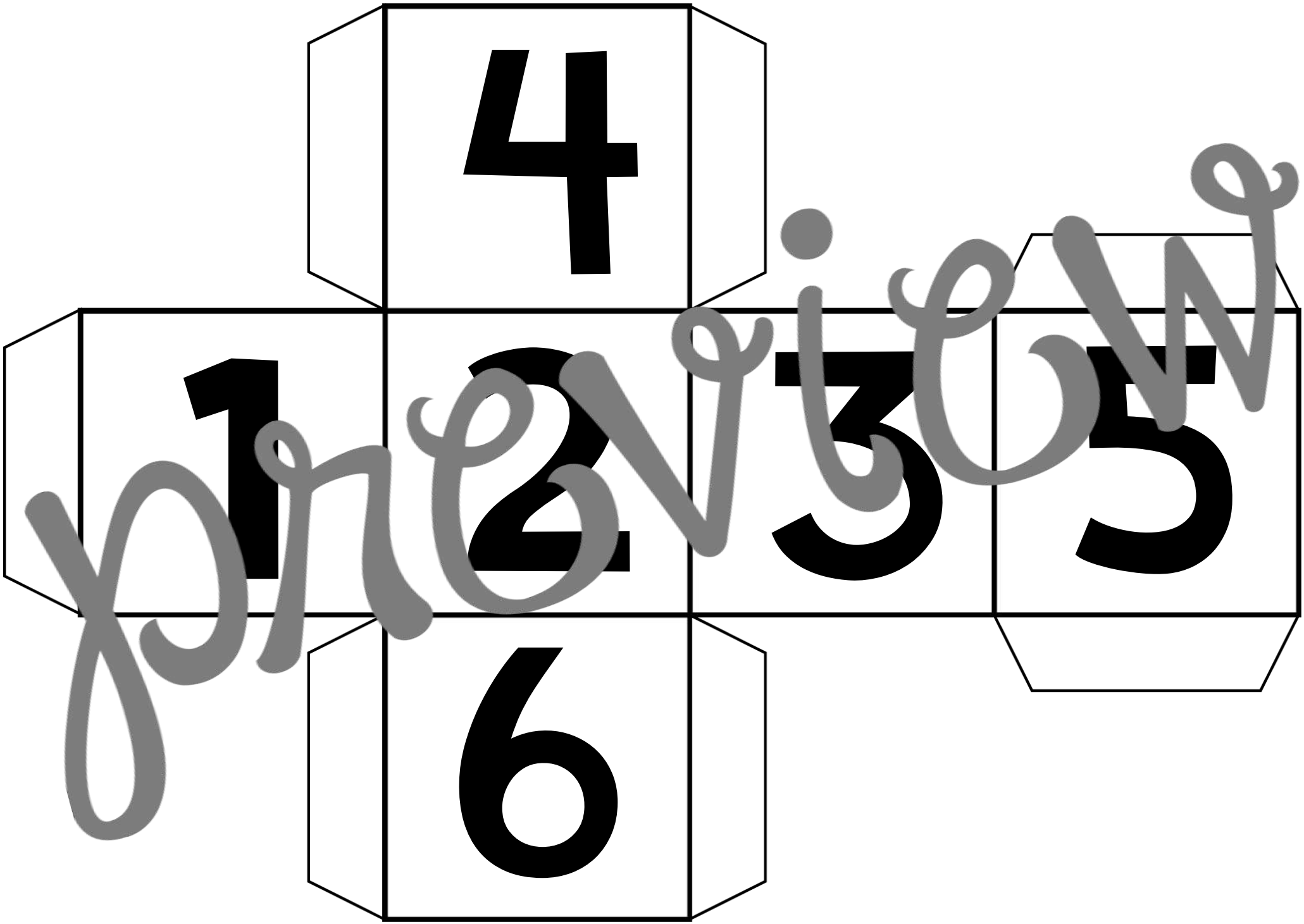
Materials

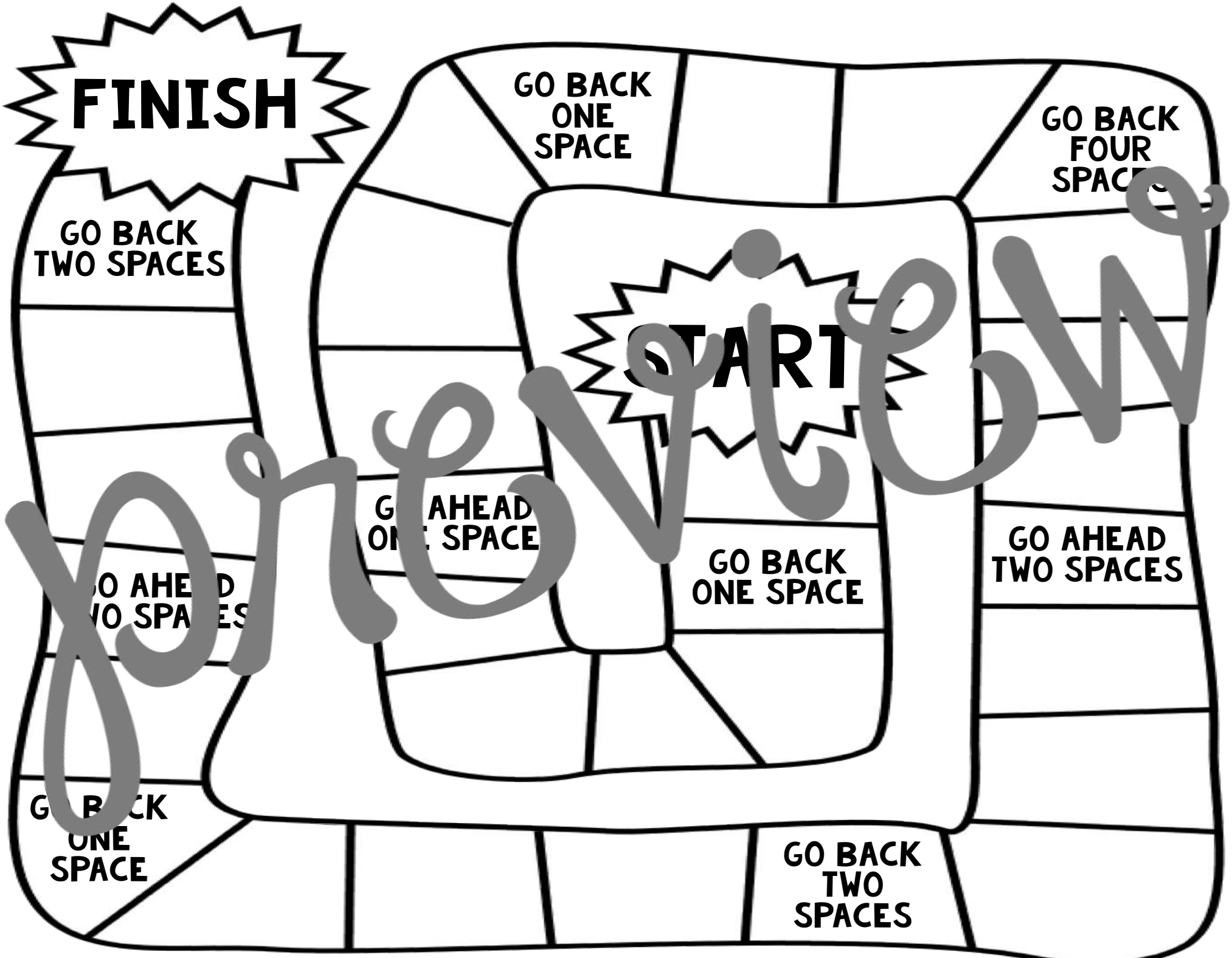
Included:
- Game Rules
- Game Board
- Problem Cards
- Die (can use regular die instead)
- Answer Key for Problem Cards

Not Included:
- Pencil

BOARD GAME DIRECTIONS

- Roll the die to determine who goes first.
  - The player who rolls the highest number goes first and then rotate clockwise. (to the left)
- Pull a "Problem Card" and solve
  - Another player checks your answer
    - If correct, you roll the die and move forward that many spaces.
      If incorrect, the next player takes their turn.
- If you land on a special space, follow the directions on the space.
- Continue play until a player reaches the finish.





1 a three sided polygon with equilateral sides	**2** a three sided polygon with one right angle	**3** a four sided polygon	**4** a four sided polygon with four right angles and two pairs of equilateral sides
5 a four sided polygon with four equilateral sides and no right angles	**6** a four sided polygon with four equilateral sides and four right angles	**7** a five sided polygon with five obtuse angles	**8** a three sided polygon with one obtuse angle
9 a four sided polygon with one set of parallel lines	**10** a four sided polygon with two sets of parallel lines	**11** a four sided polygon with two pairs of equilateral sides and no parallel sides	**12** a six sided polygon with six obtuse angles
13 a seven sided polygon with seven obtuse angles	**14** a three sided polygon with two equilateral sides	**16** a three sided polygon with sides of all different lengths	**16** an eight sided polygon with eight obtuse angles

BOARD GAME PROBLEM CARDS ANSWER KEY

1 equilateral triangle	**2** right triangle	**3** quadrilateral	**4** rectangle
5 rhombus	**6** square	**7** pentagon	**8** obtuse triangle
9 trapezoid	**10** parallelogram	**11** kite	**12** hexagon
13 heptagon	**14** isosceles triangle	**15** scalene triangle	**16** octagon

FIGURE HUNT

Find geometric figures in the real world, and then sketch and record their attributes.

TEACHER SUGGESTIONS
FIGURE HUNT

- In this activity students are asked to find geometric figures in the real world, and then sketch and record their attributes.
- This activity can be used in a variety of ways:
  - ✓ Small group with teacher guidance
  - ✓ A partner activity for practice
  - Independently to assess

Materials

Included:
- Recording sheet

Not Included:
- Pencil
- Answer Key

Name _____ #_____ Date_____

FIGURE HUNT RESPONSE SHEET

Find geometric figures in the real world, and then sketch and record their attributes.

SKETCH	FIGURE NAME	ATTRIBUTES

more on back

SKETCH	FIGURE NAME	ATTRIBUTES

GEOMETRY ROBOT

Roll the die and follow the directions to draw a monster out of geometric figures.

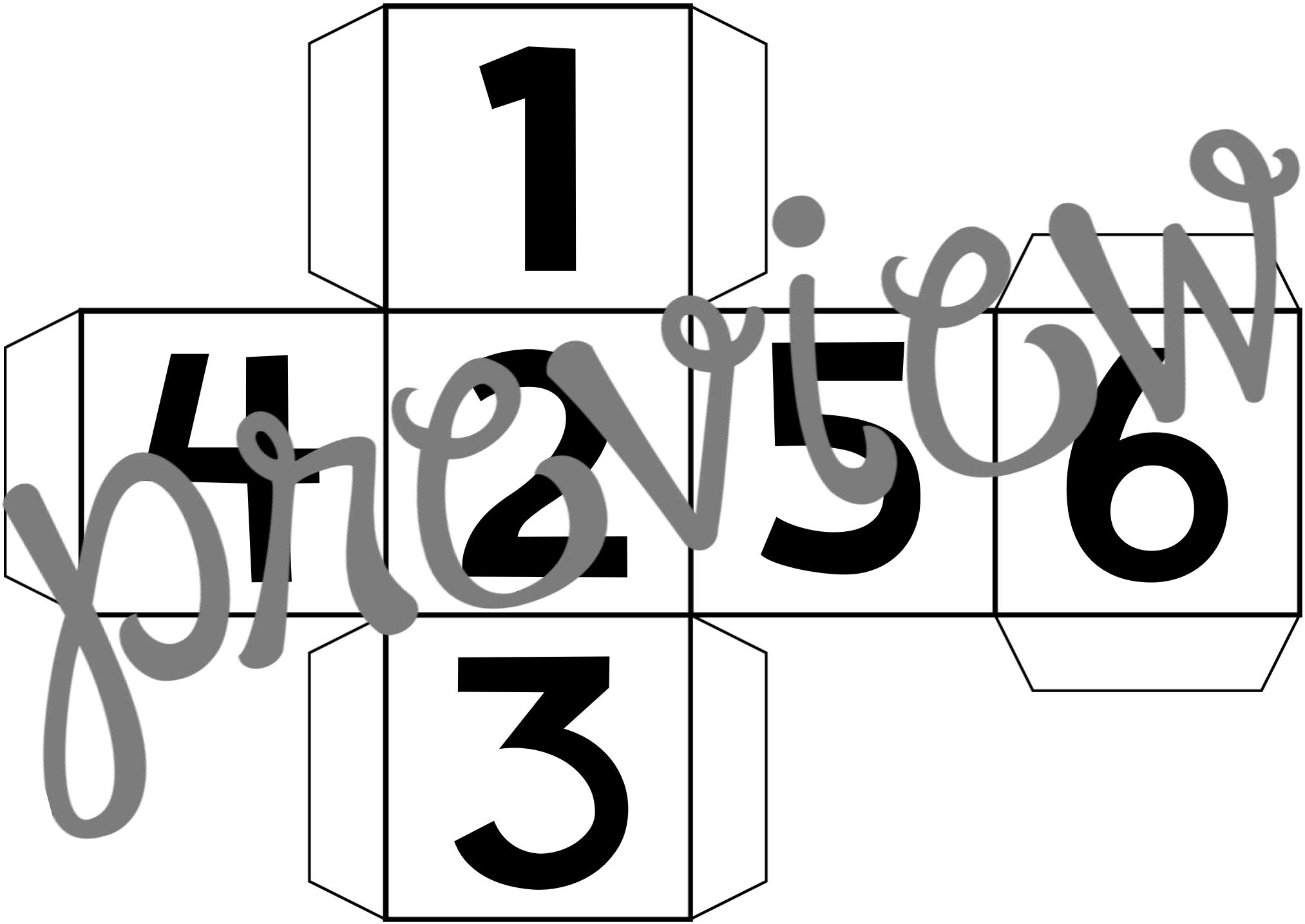
TEACHER SUGGESTIONS
GEOMETRY ROBOT

- In this activity students are asked to roll a die to complete a work page giving them directions on how many geometric figures to use when drawing a monster. This activity can be used in a variety of ways:
  - Small group with teacher guidance
  - A partner activity for practice
  - Independently to assess

Materials

Included:
- Work Page
- Die
  - You can use a regular six sided die instead

Not Included:
- Pencil
- Answer Key



Name _____ #_____ Date_____

GEOMETRY ROBOT WORK PAGE

Roll the die to fill in the blank for each direction, and then use the back of this page or another paper to create your geometry robot.

Your robot should have ___ pentagonal eyes on each head.

Your robot should have ___ rectangular arms.

Your robot should have ___ triangular legs.

Your robot should have ___ hexagonal feet on each leg.

Your robot should have ___ parallelogram heads.

Your robot should have ___ circular hands on each arm.

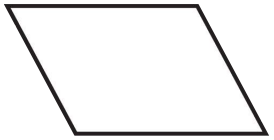
Your robot should have ___ triangular lights on its body.

All other body parts are up to you!

Name _____ #_____ Date _____

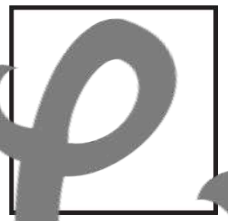
TEST BRIDGE QUESTIONS

1. Which statement is NOT true of a parallelogram?



a. It has four sides
b. It has four angles
c. It has two sets of parallel lines
d. It has at least one right angle

2. The following shape is all except:



a. a square
b. a pentagon
c. a rectangle
d. a parallelogram

3. Which of the following is NOT considered a parallelogram?

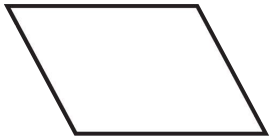
a. a square
b. a trapezoid
c. a rectangle
d. a rhombus

4. Which of the following statements is NOT true?

a. a square is a rectangle
b. a rectangle is a parallelogram
c. a rhombus is a rectangle
d. a rectangle is a rhombus

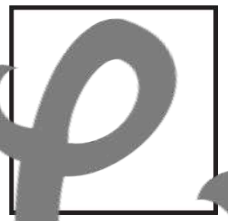
TEST BRIDGE ANSWER KEY

1. Which statement is NOT true of a parallelogram?



a. It has four sides
b. It has four angles
c. It has two pairs of parallel lines
d. It has at least one right angle

2. The following shape is all except:



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