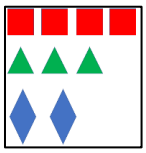
2019-2020 HISD @ H.O.M.E. Distance Learning
Mathematics – Grade 2
April 13-24, 2020 – Week 1

Monday – 30 minutes	
Activity / Task **Recognizing and Creating Two-Dimensional Shapes**	Guiding Question: What attributes can tell me how to recognize and create two-dimensional shapes? Cut out the shapes from the handout.  **Try This First.** How can you use 5 of the shapes that you cut out to create a new shape with 5 vertices? **Let's Learn Together.** Use two green shapes, one blue shape, and two red shapes and build the shape below.  *Image by HISD Curriculum using Apple® iPhone.* The shape you created above is called a **pentagon**, a polygon that has 5 sides and 5 vertices. Let's make another shape. Use one green shape, one blue shape, and one red shape to create a new shape with 6 sides like the one below.  *Image by HISD Curriculum using Apple® iPhone.* The shape you created above is called a **hexagon**, a polygon that has six sides and 6 vertices. **Now It's Your Turn**. Look at the "Independent Practice for Monday" and follow the directions to build different two-dimensional shapes.
Resources	Polygon Cut Outs for Monday Independent Practice for Monday

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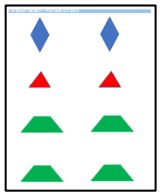
Tuesday – 30 minutes	
Activity / Task **Decomposing Two-Dimensional Figures**	Guiding Question: How can I decompose a two-dimensional figure and identify the resulting shapes? Cut out the shapes from the resource "Polygon Cut Outs for Tuesday."  **Try This First!** Look at the 2-dimensional shape below.  *Image by HISD Curriculum using Microsoft® Word.*  The shape is a **polygon** because it is a closed figure made with straight lines that do not cross.  The shape is a **quadrilateral** because it has 4 sides and 4 vertices. The shape is a **trapezoid** because it has one set of lines that will never cross. **Let's Learn Together.** Decompose the quadrilateral so that it makes two other shapes. Place those two shapes on top of your quadrilateral.  *Image by HISD Curriculum using Microsoft® Word.* The quadrilateral above is decomposed into a **triangle** and a **parallelogram**. **Now It's Your Turn.** Look at the "Independent Practice for Tuesday" and follow the directions to decompose different two-dimensional shapes.
Resources	Polygon Cut Outs for Tuesday Independent Practice for Tuesday

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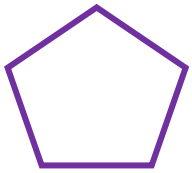
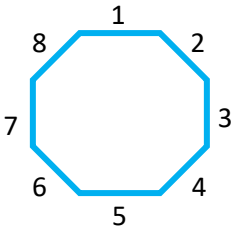
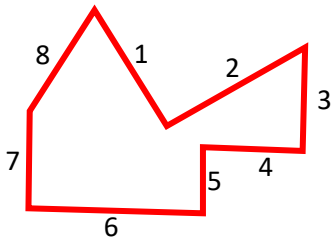
Wednesday – 30 minutes	
Activity / Task **Attributes of Two-Dimensional Figures**	Guiding Question: What attributes can tell me how to recognize and create two-dimensional shapes? **Try This First!** Compose a model of a figure that has 4 sides and 4 vertices like the one represented below on your paper or notebook.  The figure you created is named a **square**. **Let's Learn Together.** Compose a model of a figure that has 5 sides and 5 vertices like the one represented below on your paper or notebook.  The figure you created is named a **pentagon**. We can identify two-dimensional shapes by name, when we know the characteristics of the shape. Let's make another shape. Compose a model of a figure that has 8 sides and 8 vertices (like one of the figures represented below) on your paper. Number each of the sides so you know how many total sides your shape has.   The figure you created is named an **octagon**. **Now It's Your Turn.** Draw two-dimensional shapes with the following numbers of sides and vertices. Can you draw more than one example? Can you name your shape? • 3 sides, 3 vertices • 6 sides, 6 vertices • 7 sides, 7 vertices • 9 sides, 9 vertices
Resources	

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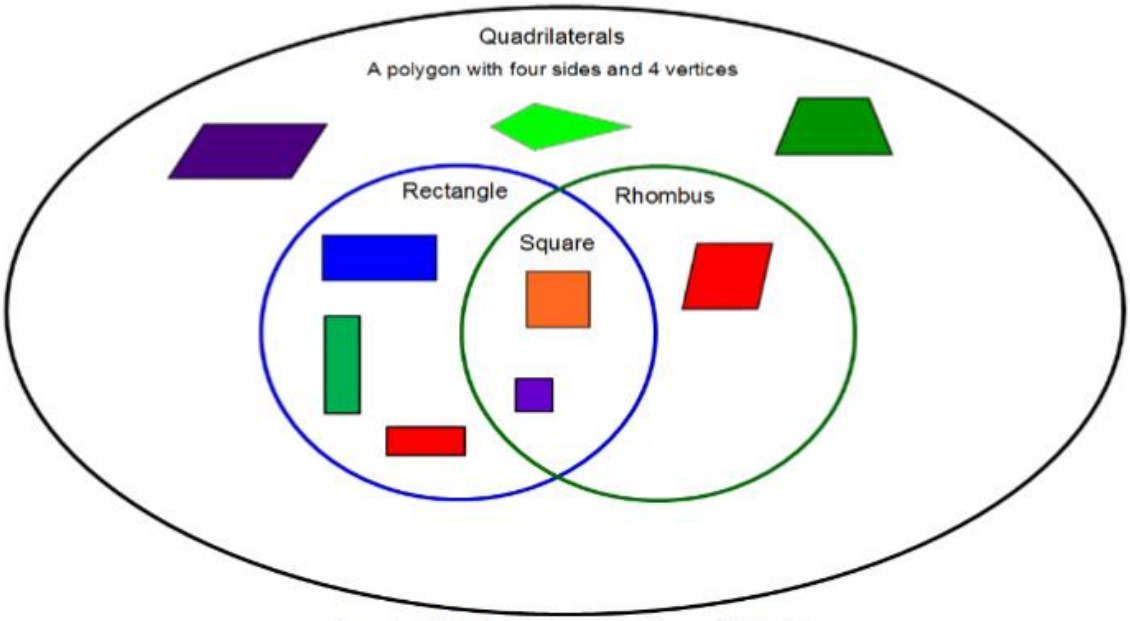
Thursday – 30 minutes	
Activity / Task **Classifying and Sorting Quadrilaterals**	Guiding Question: How can I classify and sort quadrilaterals based on attributes using formal geometric language? **Try This First!** Look at the Venn diagram below. What do you notice?  *Image by HISD Curriculum using Microsoft® Word* **Let's Learn Together!** Our Venn Diagram shows different ways to classify quadrilaterals. A rectangle, a square, and a rhombus can be classified as quadrilaterals. **AND** A square can be classified as a rectangle and also as a rhombus. **Now It's Your Turn.** Look at the "Independent Practice for Thursday" and follow the directions to identify and organize two-dimensional shapes.
Resources	Independent Practice for Thursday

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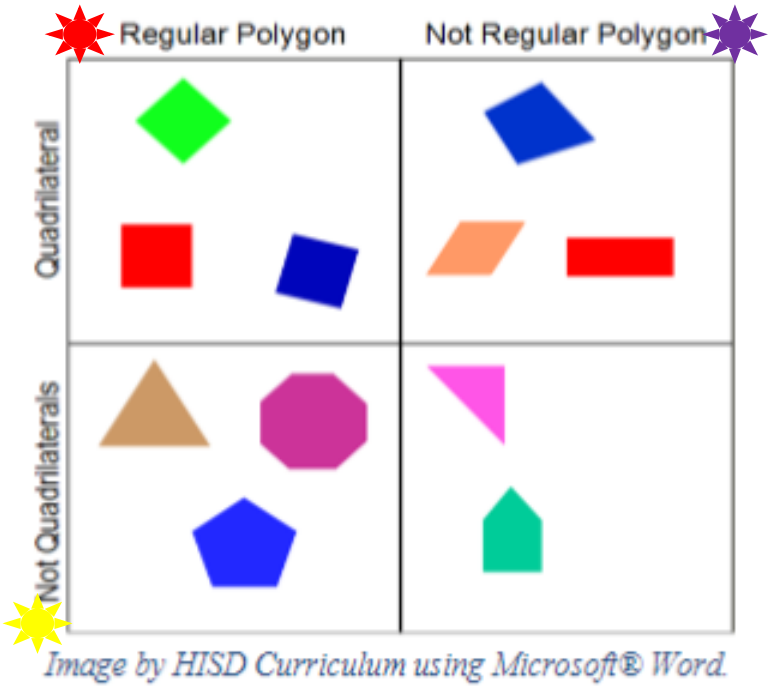
Mathematics – Grade 2
April 13-24, 2020 – Week 1

Friday – 30 minutes	
Activity / Task **Classifying and Sorting Quadrilaterals**	Guiding Question: How can I sort and classify polygons base on formal geometric attributes? Cut out the shapes from the handout. **Try This First.** Trace the figures with your pencil in the chart below. What do you notice?  *Image by HISD Curriculum using Microsoft® Word* **Let's Learn Together.** Some of these polygons are **regular** because all the sides have the same length and the corners appear to be the **same**. Some of these polygons are **irregular** because not all the sides are the same length, or the corners appear to be **different**. Some of these polygons are **not quadrilaterals** because they do not have 4 sides, 4 vertices or 4 angles. **Now It's Your Turn.** Look at the "Independent Practice for Friday." Sort the shapes you cut using the graphic organizer.
Resources	Polygon Cut Outs for Friday Independent Practice for Friday

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Mathematics – Grade 2
April 13-24, 2020 – Week 2

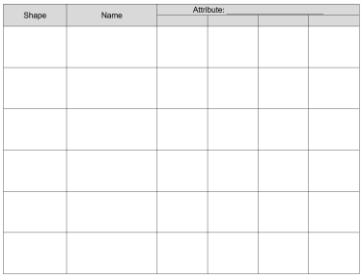
Monday – 30 minutes

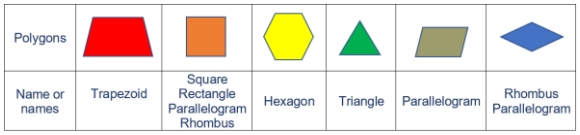
Activity / Task

Organizing Two-Dimensional Shapes

Guiding Question: How can I organize a group of two-dimensional shapes and describe how I organize them?

Cut out the shapes and the graphic organizer from the resource "Polygon Cut Outs and Graphic Organizer for Monday."





Try This First. What geometric attribute can you use to classify the figures you cut out?

Let's Learn Together! Let's choose number of sides as the geometric attribute. Let's count the number of sides for each shape and organize them into groups. We are now ready to complete our table.

Let's start with the first polygon on the table. 

How many sides does it have?

If you said it has 4 sides, you are correct!

This shape is called *trapezoid*. Trapezoids are quadrilaterals because they have four sides and four vertices. We can put an "X" in our graphic organizer to show that a trapezoid has four sides.

Shape	Name	Attribute: *Number of Sides*			
		Three	Four	Five	Six
	*Trapezoid*		X		

Now It's Your Turn. Let's continue to classify the shapes you cut out. Then, write a sentence to describe how you organized these shapes. You can use the sentence frame below:
I organized my shapes by _____.

Can you think of another way to organize these shapes using a different attribute?

Resources

Polygon Cut Outs and Graphic Organizer for Monday

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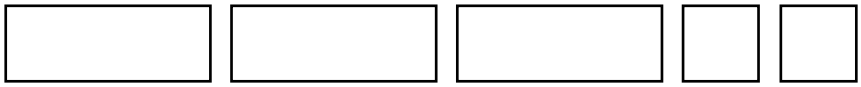
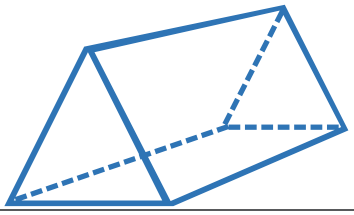
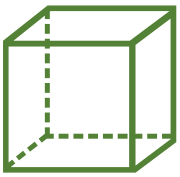
2019-2020 HISD @ H.O.M.E. Distance Learning
Mathematics – Grade 2
April 13-24, 2020 – Week 2

Tuesday – 30 minutes	
Activity / Task **Composing Three-Dimensional Figures**	Guiding Question: How can I compose three-dimensional figures with given properties or attributes? **Vocabulary Review**. Look at the resource "Vocabulary Match." Do you recognize these figures from first grade? Match the figure to its name. **Try This First.** What do you notice about the figures you just matched? Here is a list of attributes that you can use to describe these figures. • They are three-dimensional figures. They have length, width, and height. • Three-dimensional figures have faces that are polygons. • We can describe them using the words face, edge, and vertex. **Let's Learn Together!** Let's compose three-dimensional figures based on some attributes. I am thinking of a three-dimensional figure that has 6 faces and 8 vertices. Here are the shapes of the faces:  Which three-dimensional figure am I describing? That is right! I am thinking about a rectangular prism! *Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.*  **Now It's Your Turn.** Draw the shapes that you would use to compose the following three-dimensional shapes. Then describe them like we described the prism above.  
Resources	Vocabulary Match

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Mathematics – Grade 2
April 13-24, 2020 – Week 2

Wednesday – 30 minutes

Activity / Task

Three-Dimensional Figures: Prisms

Guiding Question: How can I classify and sort three-dimensional prisms using formal geometric language?

Let's Review Our Vocabulary Words. Look at the prisms on the resource "Three-Dimensional Figures." We can use the attributes of prisms (number of edges, vertices, and faces) to sort them. For example, we know that cubes and rectangular prisms have 6 faces.

Try This First. How can you describe a rectangular prism? (Hint: You can find a box at home to help you.)

Image by Clker-Free-Vector-Images from Pixabay

Let's Learn Together. We can use the following sentence frames to describe three-dimensional figures.

- This ____ has __ faces. The _____ are _____.
- This ____ has __ vertices.
- This ____ has __ edges.

Use the images of prisms on the resource "Three-Dimensional Figures" and count the number of vertices, edges, and faces for each one. Let's do the first one together.

Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.

- This prism has 6 faces. The faces are rectangles.
- This prism has 8 vertices.
- This prism has 12 edges.

Let's make a table with this information. Use the resource "Three-Dimensional Figures" and complete the missing information. Think of real-world examples of these figures for you to draw.

Solid	Number of Faces/Bases	Number of Edges	Number of Vertices	Image	Real world object
Rectangular Prism					
Triangular Prism		9			
Cube					

Now It's Your Turn. Continue to add the missing information to the table. Then, choose a three-dimensional figure and describe it using the sentence frames we used today.

Resources	Three-Dimensional Figures

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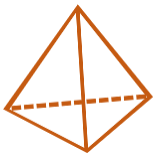
Mathematics – Grade 2
April 13-24, 2020 – Week 2

Thursday – 30 minutes	
Activity / Task **Three-Dimensional Figures: Pyramids**	Guiding Question: How can I classify and sort three-dimensional pyramids using formal geometric language? **Let's Review Our Vocabulary Words!** Look at the resource "Three-Dimensional Figures" from yesterday. Look at the pyramids. We can use the attributes of pyramids (number of edges, vertices, and faces) to sort them. For example, we know that a triangular pyramid has 4 faces. **Try This First!** How can you describe a triangular pyramid like the one below?  *Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.* **Let's Learn Together!** We can use the following sentence frames to describe three-dimensional figures. • This ____ has __ faces. The _____ are _____. • This ____ has __ vertices. • This ____ has __ edges. Use the images on the resource "Three-Dimensional Figures" and count the number of vertices, edges, and faces for each pyramid. Let's do the first one together!  *Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.* • This pyramid has 4 faces. The faces are triangles. • This pyramid has 4 vertices. • This pyramid has 6 edges. Use the resource "Three-Dimensional Figures" and complete the missing information. Think of real-world examples of these figures for you to draw. **Triangular Pyramid** | | | |  | | **Rectangular Pyramid** | | | 5 |  | **Now It's Your Turn.** Continue to add the missing information to the table. Then, choose a pyramid and describe it using the sentence frames we used today.
Resources	Three-Dimensional Figures

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Mathematics – Grade 2
April 13-24, 2020 – Week 2

Friday – 30 minutes

Activity / Task **Three-Dimensional Figures: Spheres, Cones, Cylinders**	Guiding Question: How can I classify and sort three-dimensional that have round surfaces using formal geometric language? **Let's Review Our Vocabulary Words.** Look at the resource "Three-Dimensional Figures". Look at the sphere, the cone, and the cylinder. We can use the attributes we used before (number of edges, vertices, and faces) to sort them. For example, we know that a sphere has no faces. **Try This First!** How can you describe a sphere?  *Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.* **Let's Learn Together!** We can use the following sentence frames to describe three-dimensional figures. • This ____ has __ faces. • This ____ has __ vertices. • This ____ has __ edges. Use the images on the resource "Three-Dimensional Figures" and count the number of vertices, edges, and faces for each one. Let's do the first one together!  *Image of figure by HISD using Microsoft® Word and 1, 2, 3 Math Fonts with permission.* • This sphere has 0 faces. • This sphere has 0 vertices. • This sphere has 0 edges. Use the resource "Three-Dimensional Figures" and complete the missing information. Think of real-world examples of these figures for you to draw.

Sphere		0			
Cone		0			
Cylinder		0	0		

	Now It's Your Turn. Continue to add the missing information to the table. Then, choose a sphere, a cone or a cylinder and describe it using the sentence frames we used today.
Resources	Three-Dimensional Figures

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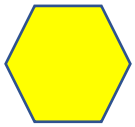
CLASSIFYING POLYGONS

Polygons						
Name or names	Trapezoid	Square Rectangle Parallelogram Rhombus	Hexagon	Triangle	Parallelogram	Rhombus Parallelogram

Shape	Name	Attribute: _____			

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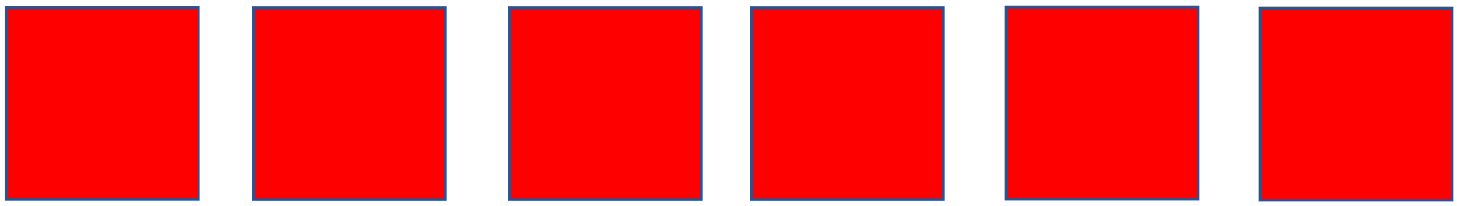

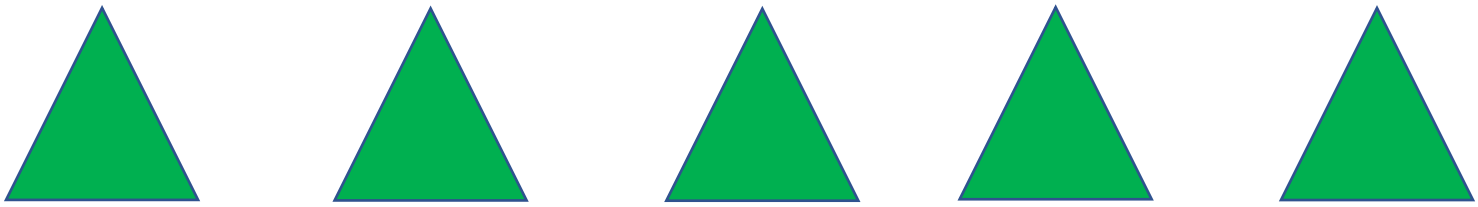

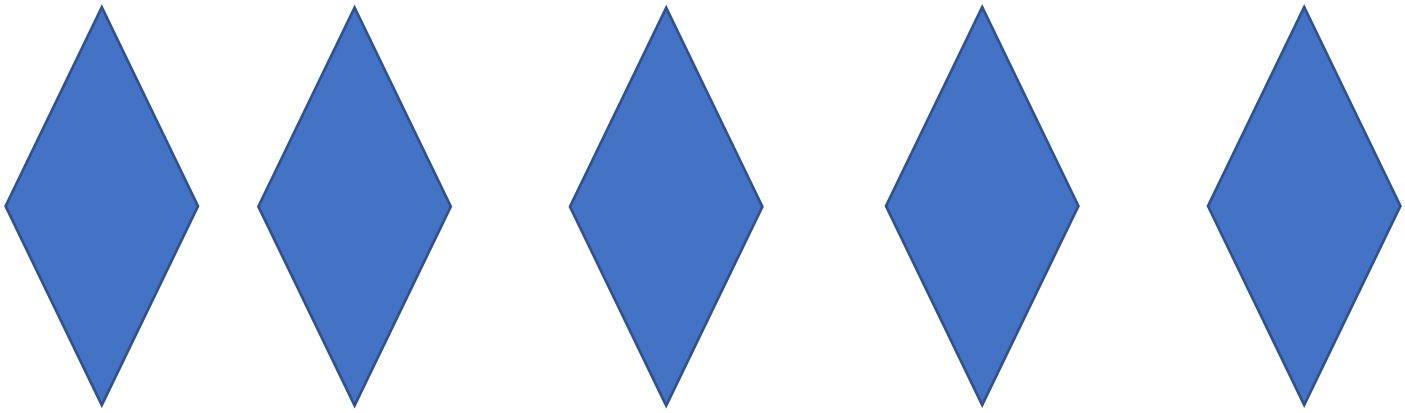

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INDEPENDENT PRACTICE FOR MONDAY

Directions: Build the shapes below with your cut outs, count the vertices and sides, then match the name of each shape you built from the definitions, and write the name on the line below.

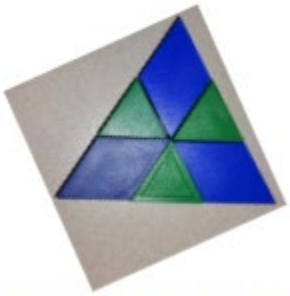

Image by HISD Curriculum using Apple® iPhone.

_____

Parallelogram: A quadrilateral with opposite sides congruent and parallel and opposite angles congruent

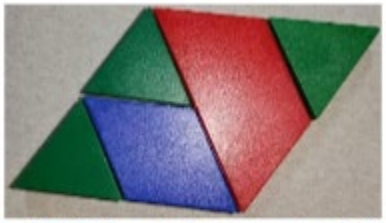

Image by HISD Curriculum using Apple® iPhone.

_____

Triangle: A two-dimensional shape with three sides, three vertices and three angles

Image by HISD Curriculum using Apple® iPhone.

_____

Trapezoid: A quadrilateral with exactly one pair of parallel lines

Image by HISD Curriculum using Apple® iPhone.

_____

Octagon: A polygon that has eight sides or vertices

Square: A parallelogram that is a rhombus and a rectangle (a parallelogram with four congruent sides and four congruent angles)

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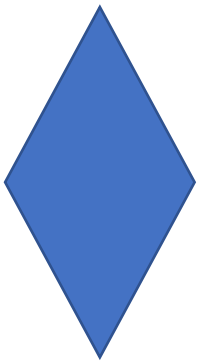

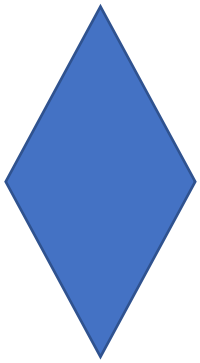

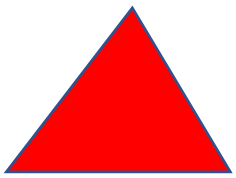

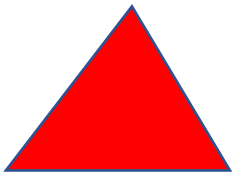

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INDEPENDENT PRACTICE FOR TUESDAY

Directions: Draw a line on your quadrilaterals like the examples below and write about the new shapes you created using your word bank at the bottom of the page to help you!

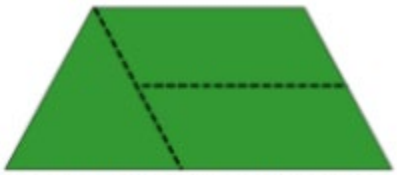

Image by HISD Curriculum using Microsoft® Word.

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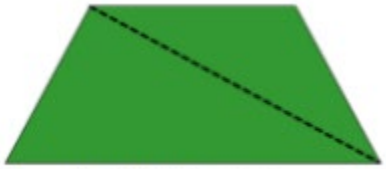

Image by HISD Curriculum using Microsoft® Word.

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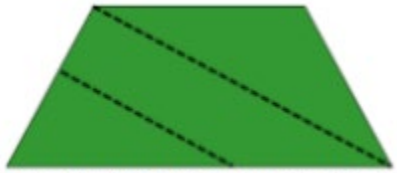

Image by HISD Curriculum using Microsoft® Word.

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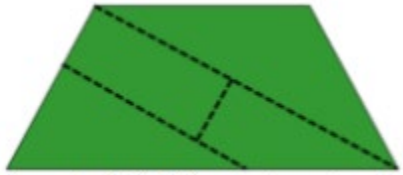

Image by HISD Curriculum using Microsoft® Word.

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TRIANGLE	TRAPEZOID	PARALLELOGRAM	RECTANGLE

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INDEPENDENT PRACTICE FOR THURSDAY

Directions: Complete the Venn Diagram with the correct name for each figure drawn. Use your word bank to help you!

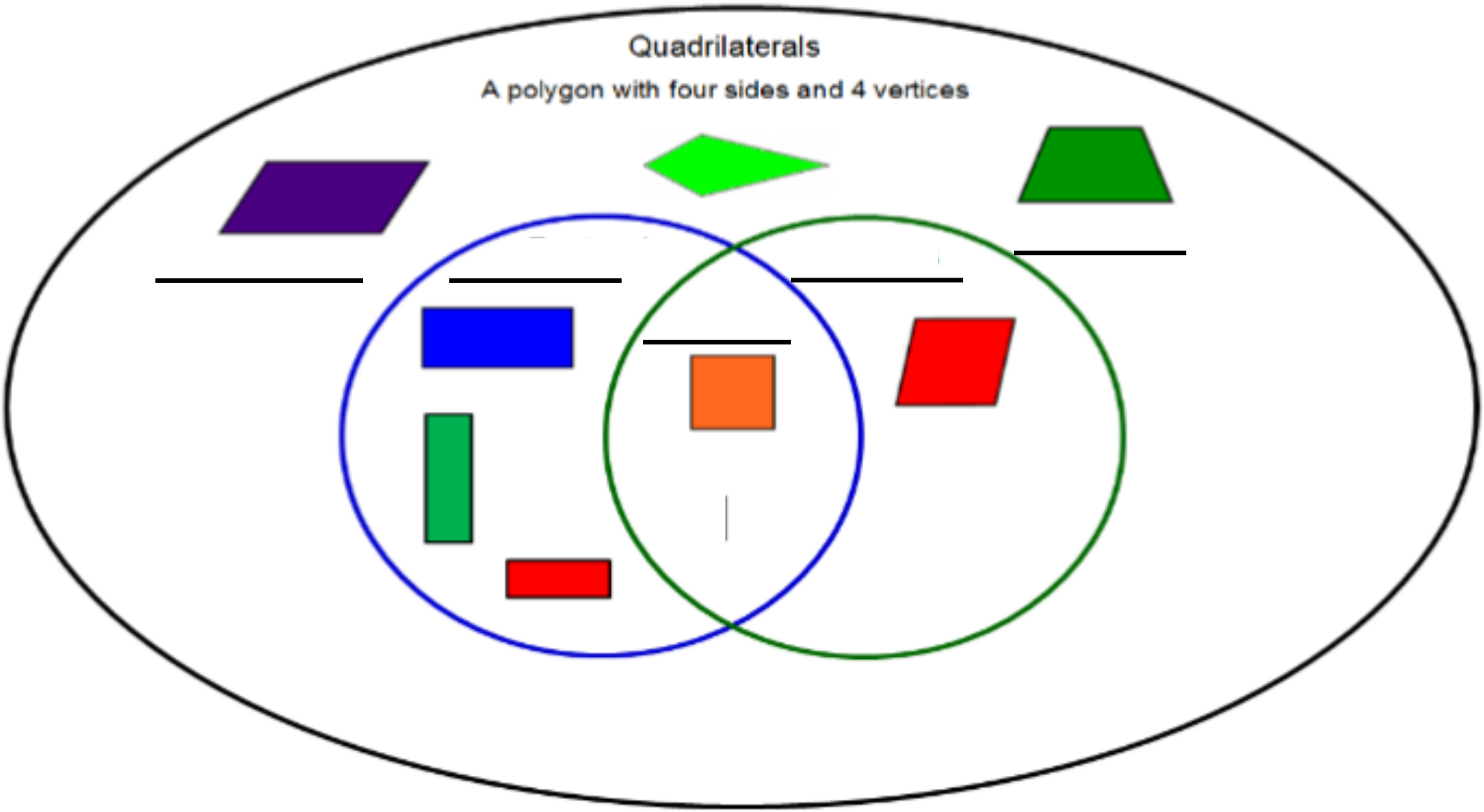

Image by HISD Curriculum using Microsoft® Word.

SQUARE	PARALLELOGRAM	RECTANGLE	RHOMBUS	TRAPEZOID

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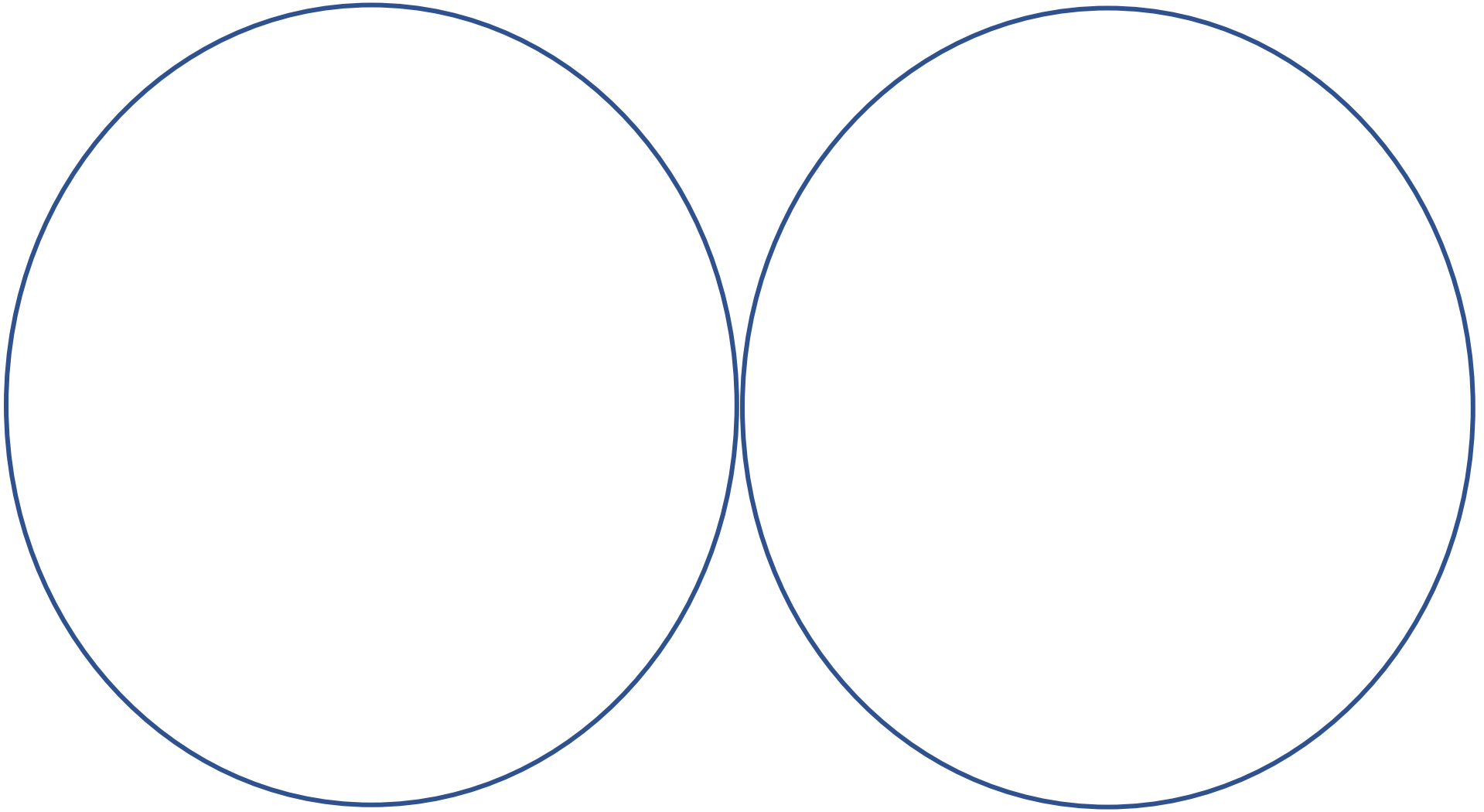
INDEPENDENT PRACTICE FOR FRIDAY

Directions: Use the graphic organizers to sort the polygons.



How did you sort the polygons?

_____

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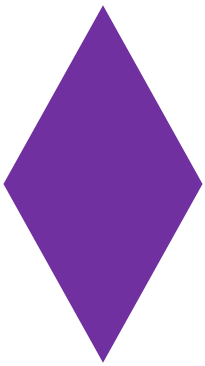
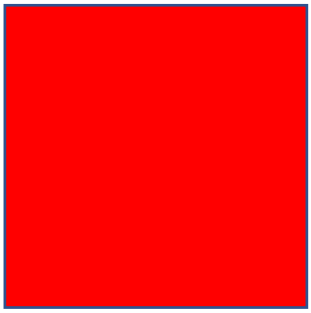
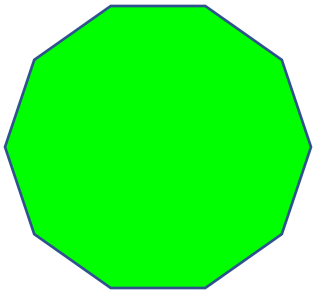
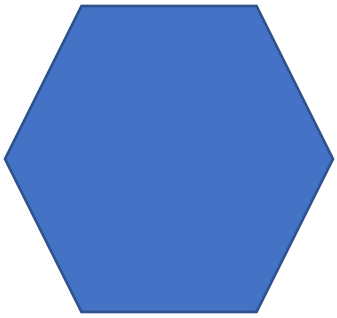
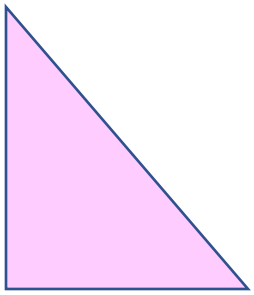
POLYGON CUT OUT FOR FRIDAY

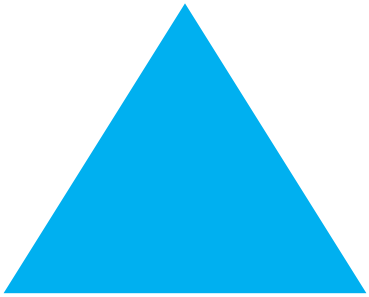


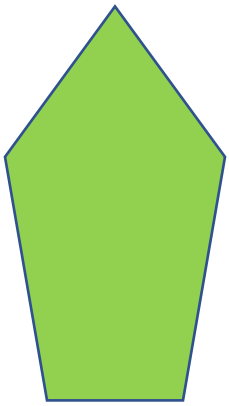












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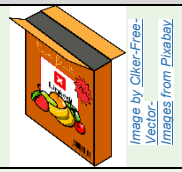
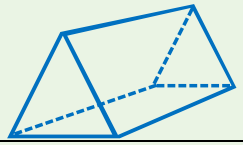
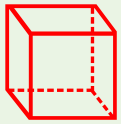
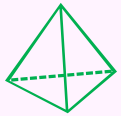
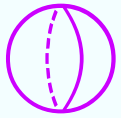
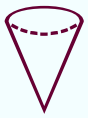
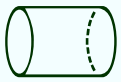
THREE-DIMENSIONAL FIGURES

Solid	Number of Faces/Bases	Number of Edges	Number of Vertices	Image	Real world object
Rectangular Prism					
Triangular Prism		9			
Cube					
Triangular Pyramid	4				
Rectangular Pyramid			5		
Sphere		0			
Cone		0			
Cylinder		0	0		

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SENTENCE FRAMES

- The figure _____ has __ faces.
- The figure _____ has __ vertices.
- The figure _____ has __ edges.

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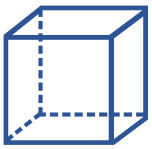
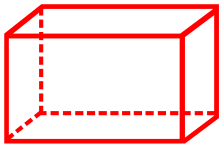
Vocabulary Match

Directions: Draw a line to match each word with the corresponding image.



Cylinder



Sphere

Cube

Cone

Rectangular Prism that is not a cube

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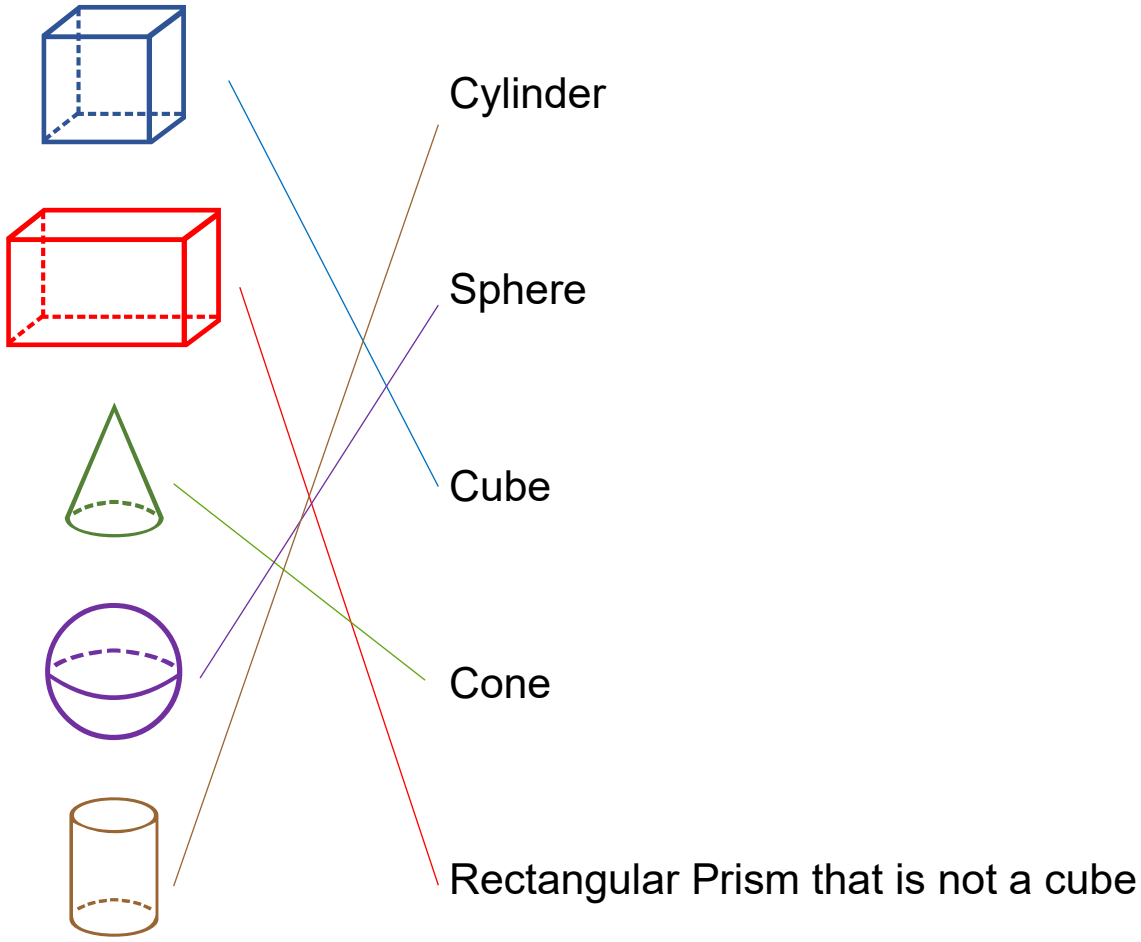
Answer:



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