Name:

Date:

School:

Facilitator:

7.01 Polygons

Total Points: 47

**Answer the questions below for each image.**

**
A 4-sided closed figure with four line segments
•  Two sides have 2 congruent tick marks on them. 
•  The other two side have 1 congruent tick mark on them. 
•  All of the sides are straight line segments. 





**

1. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

**A 4-sided closed figure with four line segments
•  Four sides have 1 congruent tick mark on them. 
•  All of the sides are straight line segments. **

2. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

**An 10-sided figure with straight line segments as sides
•  Two of the line segments intersect three line segments.
•  There are no markings on the segments or angles. 
•  All of the sides are straight line segments. 


**

3. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

**An 8-sided closed figure
•  All of the sides are straight line segments. 
•  There are no markings on the segments.**

4. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

**An 8-sided closed figure
•  It is shaped like a 4 sided star. 
•  All of the sides are straight line segments. 

 All sides are congruent.**

5. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

**A 17-sided closed figure
•  It is almost shaped like a circle.
•  All of the sides are straight line segments. 

 All sides and angles are congruent.**

6. Is this figure a polygon?

**Answer the questions below only if the figure is a polygon.**

1a. Is this polygon concave or convex?

1b. Is this polygon regular, equiangular, equilateral, or none of these?

1c. What is the name of this polygon?

7. Identify which of these terms do not belong with the other three: square, circle, hexagon, or triangle. Explain your reasoning.

8. What are the coordinates of the vertices of the polygon formed by the lines in the diagram?

A 4-sided polygon EFGH on a coordinate plane

Four lines, y = -x + 2, y = (1/2)x + 3.5, y = -x - 4, and y = -(1/2)x - 1,  are drawn through the sides of the polygon. 

Coordinates:      ,      ,     , and      .

9. Find the coordinates of the vertices of the triangle formed by the lines: *y* = 8*x* − 3,

*y* = 2*x* − 3, and *y* = −*x* + 6. Show your work in the spaces provided.

The intersection of lines *y* = 8*x* – 3 and *y* = 2*x* – 3 is      .

Show your work here:

The intersection of lines *y* = 8*x* – 3 and *y* = −*x* + 6 is      .

Show your work here:

The intersection of lines *y* = 2*x* – 3 and *y* = −*x* + 6 is      .

Show your work here:

The coordinates of the vertices of the triangle are:      ,      , and      .

A black number and a line

Description automatically generated with medium confidenceA black number and a line

Description automatically generated with medium confidence10. Use the link on the task page to find the coordinates of the vertices of the triangle formed by the lines: , , and *y* = *x* – 2. Copy and paste the graph in the space provided below. Then, answer the problems that follow.

Graph:

A black number and a line

Description automatically generated with medium confidence

A black number and a line

Description automatically generated with medium confidenceA black number and a line

Description automatically generated with medium confidenceThe intersection of lines and is      .

The intersection of lines and *y* = *x* – 2 is      .

A black number and a line

Description automatically generated with medium confidenceThe intersection of lines and *y* = *x* – 2 is      .

The coordinates of the vertices of the triangle are:      ,      , and      .