

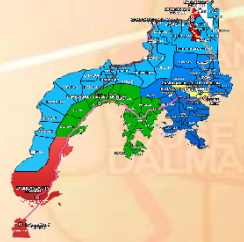


Republic of the Philippines  
**Department of Education**  
 Regional Office IX, Zamboanga Peninsula



- JANUARY**  
*Matuguhon*
- FEBRUARY**  
*Mahigugmaon*
- MARCH**  
*Matinabungan*
- APRIL**  
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- MAY**  
*Makapsay og Malimpyo*
- JUNE**  
*Maablik og Masunod sa  
Dhasalng Oras*
- JULY**  
*Maantigo og Maabilidad*
- AUGUST**  
*Maginhuhuhunon  
para sa Uban*
- SEPTEMBER**  
*Madaginoton*
- OCTOBER**  
*Matinud-anon*
- NOVEMBER**  
*Masaligan*
- DECEMBER**  
*Maalampon*

**5**



Zest for P rogress  
 Zeal of P artnership

# Mathematics

Quarter 3- Module 3:  
**POLYGONS**



Name of Learner: \_\_\_\_\_

Grade & Section: \_\_\_\_\_

Name of School: \_\_\_\_\_



# What I Need to Know

This module contains one lesson:

## Lesson 3- Visualizing, Describing, Comparing, and Naming Polygons

In this module, you will be able to:

1. Visualize, name, describes and draw polygons with 5 or more sides.
2. Describes and compares properties of polygons (regular and Irregular)
3. Visualizes congruent polygons.



# What I Know

**Directions:** Choose the letter of the best answer. Write the chosen letter on the space provided before the number.

- \_\_\_\_\_ 1. A decagon is a polygon with \_\_\_\_\_ sides  
A. 8  
B. 9  
C. 10  
D. 11
- \_\_\_\_\_ 2. Polygon has \_\_\_\_\_?  
A. three or more sides  
B. two or more sides  
C. four sides only  
D. no sides.
- \_\_\_\_\_ 3. "Penta" means \_\_\_\_\_.  
A. six                      B. eight                      C. five                      D. seven
- \_\_\_\_\_ 4. A seven-sided polygon is called \_\_\_\_\_.  
A. pentagon  
B. hexagon  
C. nonagon  
D. heptagon
- \_\_\_\_\_ 5. Describe what is hexagon?  
A. Hexagon is six sides and six angles.  
B. Hexagon is six sides and four angles  
C. Hexagon is seven sides and seven angles.  
D. Hexagon is no sides are equal.
- \_\_\_\_\_ 6. Two polygons are congruent if \_\_\_\_\_.  
A. Corresponding sides angle are congruent.  
B. Corresponding shapes and angles are similar  
C. shapes are similar but angles are not  
D. Angles are similar but shapes are not

\_\_\_\_\_7. What is a regular polygon?

- A. Regular polygons have no sides congruent.
- B. Regular polygons have no equal sides.
- C. Regular polygons have all sides congruent.
- D. Regular polygons have four sides only.

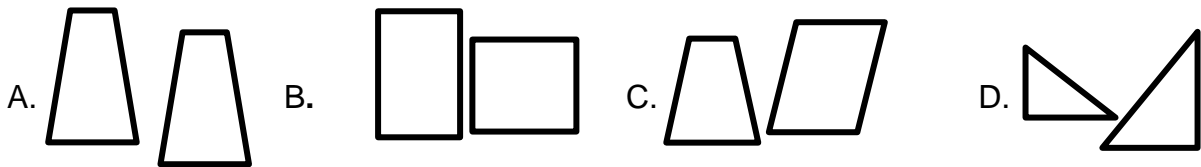
\_\_\_\_\_8. How would you compare regular polygon to irregular polygon?

- A. A regular polygon and an irregular polygon have no sides are congruent.
- B. A regular polygon and an irregular polygon have congruent sides.
- C. A regular polygon and an irregular polygon have no sides and angles are congruent.
- D. A regular polygon has congruent sides and congruent angles while an irregular polygon has no congruent sides and congruent angles.

\_\_\_\_\_9. What is the symbol of congruent?

- A. =                      B.  $\neq$                       C.  $\geq$                       D.  $\cong$

\_\_\_\_\_10. Select the following pair of congruent?



## What's In

### ACTIVITY 1. COMPLETE ME

**Directions:** Fill in the table below by writing the base and rate of the given numbers. Find the percentage.

Given	Base	Rate	Percentage
1. 25% of 160 is _____.			
2. $320 \times 35\% =$ _____.			
3. $150 \times 45\% =$ _____.			
4. 65% of 180 is _____.			
5. $490 \times 50\% =$ _____.			



# What's New

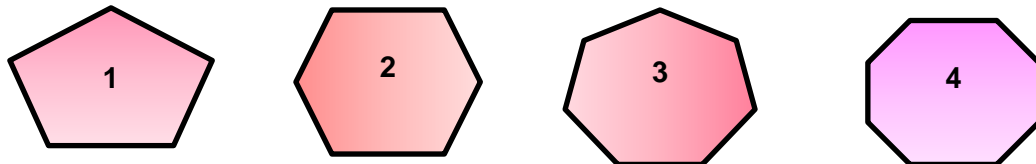
## POLYGONS

- **Polygons** are closed plane figure that formed by the line segments that meet only at their endpoints.
- **Polygons are classified** according to the number of their sides and angles.
- **Polygons may either be regular or irregular.**
- **Regular polygons** have all sides congruent or the same sides.
- **Irregular polygons** have no sides congruent or no equal sides.



## What is it

### A. Visualizing Polygons with 5 sides and above



**Polygon** is a closed plane figures made up of several line segments that are joined together. The line segments are called sides of the polygons and they do not cross each other.

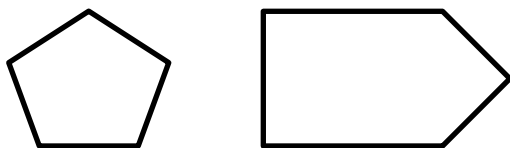
- The *first figure* is a five sided polygon named **pentagon**, from the word “penta” which means five.
- The *second figure* is a six sided polygon named **hexagon**, from the word “hexa” which mean six.
- On the *third picture* with is a **heptagon**. It’s a polygon with 7 sides with a prefix word “hepta” which means seven.
- The *last picture* is an **octagon**. Its prefix word is “octa” which means eight that’s why it is an eight sided polygon.

Study this.

Name of Polygons	Prefix	Number of Sides
Triangle	Tri	3
Quadrilateral	Quadri	4
Pentagon	Penta	5
Hexagon	Hexa	6
Heptagon	Hepta	7
Octagon	Octa	8
Nonagon	Nona	9
Decagon	Deca	10
Dodecagon	Dodeca	12

## B. Describing and Comparing Properties of Polygons

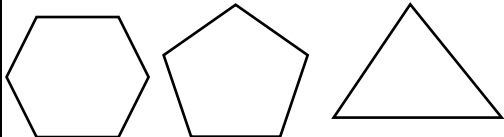
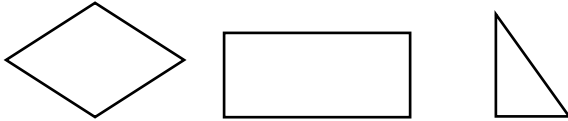
Look at these picture.



As we learned before a polygon is a plane figure made up of line segments. If we have this two polygons What can you see their properties?

Let's talk about the first one. The side of a pentagon and the angles are equal.so, this kind of a polygons is a regular polygon. Now, let's have a look at the second pentagon is obviously the sides is not equal sides.so, this is called irregular polygons.

Here are some example of a regular and irregular polygons.

Regular polygon	Irregular polygon
	

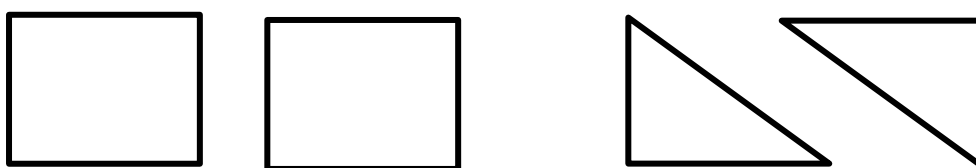
Look at this triangle, it has 3 equal sides and 3 equal angles. So, it is regular polygons, but the second triangle is not regular because neither its sides nor its angles are equal.

What about the pentagon? Side of this pentagon are equal. Notice that the opening between each 2 intersection line segments with in the shape is the same which means that all those angles are equal. So, this pentagon is equal.

Similarly, this hexagon and octagon are both regular polygons. Now, what about this diamond as you can see, all sides are equal but still it's not regular because the angles in the polygons are not equal.

This rectangle is irregular, although the 4 angles are equal. Its sides are not equal.

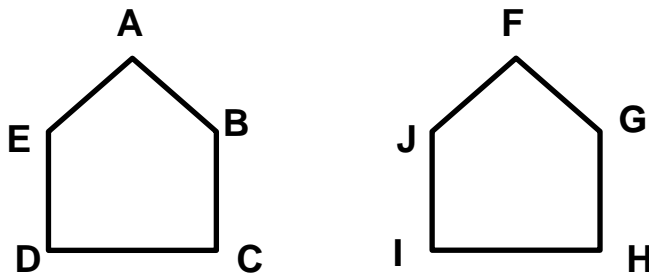
## C. Visualizing Congruent Polygons



Polygons are congruent when they have the same number of sides, and all corresponding sides and interior angles are congruent.

Look at these picture below.

The two polygons are obtained by placing two sheets of paper on top of the other and cutting the shapes out. The two polygons are said to be congruent. When are polygons congruent?



Two polygons are congruent if the corresponding sides and corresponding angles are congruent. The symbol for congruent is “ $\cong$ ” which is read as “is congruent to”.

The sides and angles of the two congruent polygons can be matched in the following manner.

Sides:

$$\overline{AB} \cong \overline{FG}$$

$$\overline{ED} \cong \overline{JI}$$

$$\overline{BC} \cong \overline{GH}$$

$$\overline{EA} \cong \overline{JF}$$

$$\overline{DC} \cong \overline{IH}$$

Angles:

$$\angle EAB \cong \angle JFG \longrightarrow$$

$$\angle ABC \cong \angle FGH$$

$$\angle CDE \cong \angle JFG$$

$$\angle ABC \cong \angle FGH$$

$$\angle BCD \cong \angle GHI$$

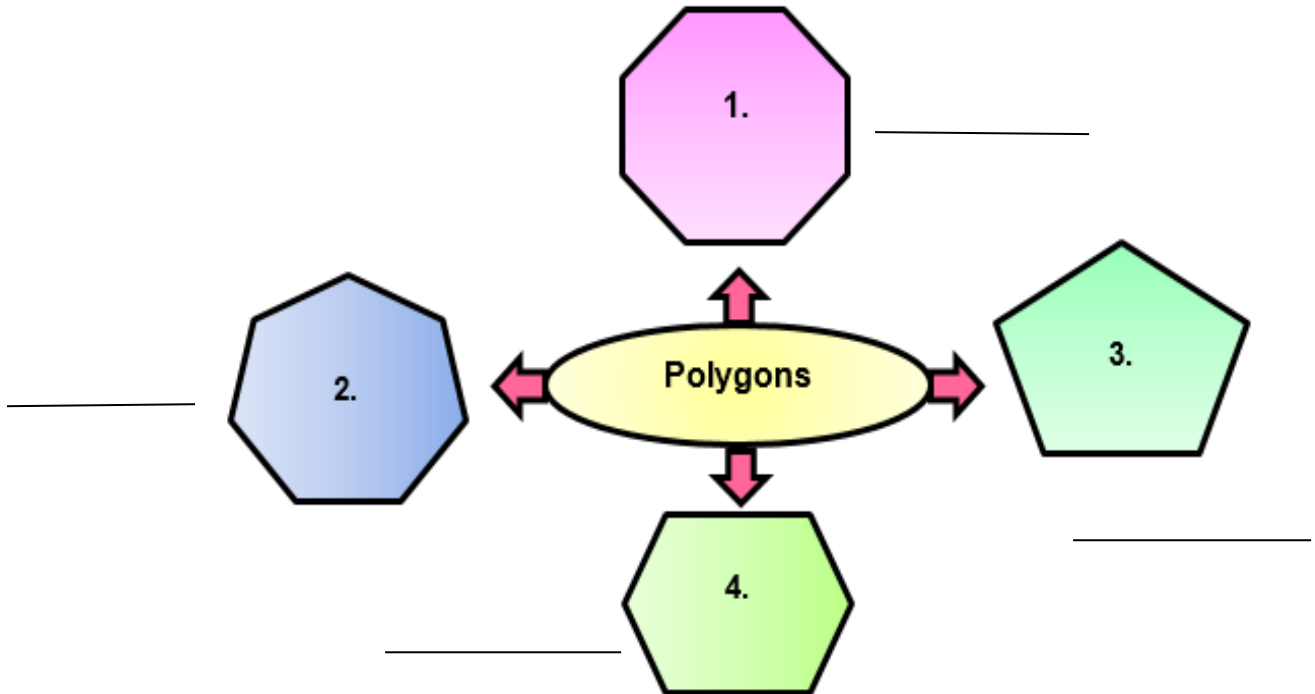
Read as:  
Angle EAB”is  
congruent  
to”angleJFG.



# What's More

## Activity 3: Complete Me

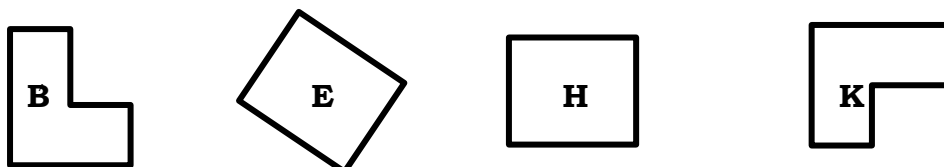
**A. Directions:** Complete the graphic organizer below write its name and sides inside the shapes



**B. Directions:** Name each polygon described.

- \_\_\_\_\_ 1) A polygon with 6 sides and 6 angles.
- \_\_\_\_\_ 2) A polygon with 10 sides and 10 angles.
- \_\_\_\_\_ 3) A polygon with 5 sides.
- \_\_\_\_\_ 4) A polygon with 8 sides.
- \_\_\_\_\_ 5) A polygon with 9 sides

**C. Directions:** Connect the letters of each pair of congruent polygons you can find through lines.



\_\_\_\_\_

\_\_\_\_\_



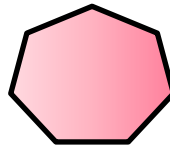
# What I Have Learned

## Activity 4: Match Me

A. Directions: Match column A to column B according to their sides.

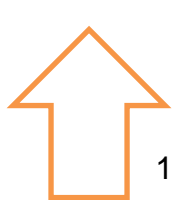
- | A              | B           |
|----------------|-------------|
| _____ 1. Five  | a. decagon  |
| _____ 2. Eight | b. Pentagon |
| _____ 3. Six   | c. Heptagon |
| _____ 4. Seven | d. octagon  |
| _____ 5. Nine  | e. hexagon  |
|                | f. nonagon  |

B. Directions: Identify each polygon. State whether it is regular or irregular polygon.

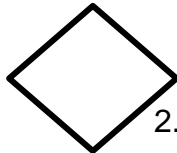
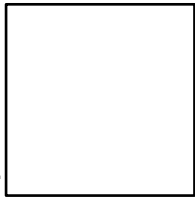


1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_

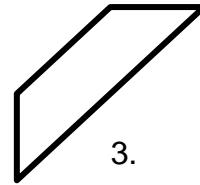
C. Directions: Draw inside the box a polygon that is congruent to the polygon below.



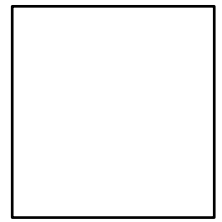
1.



2.




3.

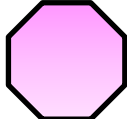
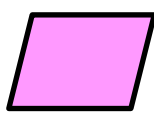


# What I Can Do

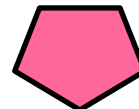
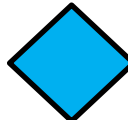
## Activity 5: Do it safety for me

A. Directions: Put a  to a polygon that correspond it's given name.

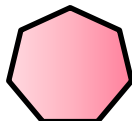
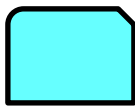
1. Octagon



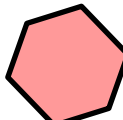
4. Pentagon



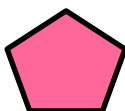
2. Regular Polygon



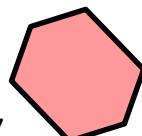
5. Hexagon



3. Congruent



7







# Assessment

**Directions.** Choose the letter of the best answer. Write the letter on the space provided before the number.

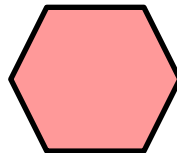
\_\_\_\_\_ 1. How many sides does the polygon at the right have?

- A. The given polygon has 9 sides.
- B. The given polygon has 10 sides.
- C. The given polygon has 12 sides
- D. The given polygon has 13 sides.



\_\_\_\_\_ 2. What name would you give this polygon based on the number of its sides?

- A. Nonagon
- B. Hexagon
- C. pentagon
- D. heptagon



\_\_\_\_\_ 3. Which of the statement below best describes a square?

- A. A square has 4 equal sides and 4 right angles.
- B. A square has 4 equal sides.
- C. A square has 4 right angles.
- D. 2 pair of parallel.

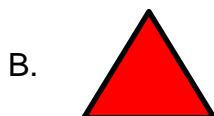
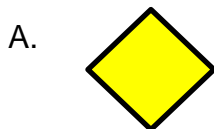
\_\_\_\_\_ 4. Which has 7 sides and 7 angles?

- A. Hexagon
- B. Heptagon
- C. Pentagon
- D. Octagon

\_\_\_\_\_ 5. An irregular polygon has \_\_\_\_\_.

- A. no sides congruent or no equal sides.
- B. equal angles and congruent sides
- C. the same sides
- D. congruent angles

\_\_\_\_\_ 6. Which of the figures is an irregular polygon?



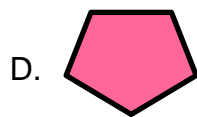
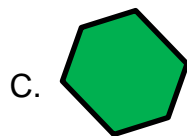
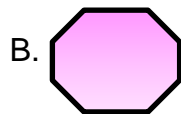
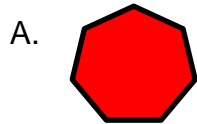
\_\_\_\_\_ 7. A twelve sided polygon is called \_\_\_\_\_.

- A. Decagon
- B. Nonagon
- C. Dodecagon
- D. Octagon

\_\_\_\_\_ 8. The sum of the measures of the angles of a regular octagon is 1080 degree.  
What is the measure of each angle of the octagon?

- A. 155 degree
- B. 135 degree
- C. 145 degree
- D. 125 degree

\_\_\_\_\_ 9. Write the letter of the figure that is congruent to figure 1.



\_\_\_\_\_ 10. Which of the statements below is correct about polygons?

- A. Polygons are congruent when they have the same number of sides, and all corresponding sides and interior angles are congruent.
- B. Polygons are congruent when they do not have the same number of sides, and all corresponding sides and interior angles are similar.
- C. Polygons are congruent when they have the same shapes and number of sides.
- D. Polygons are congruent when they have the same number of sides, and all corresponding sides and interior angles are not congruent.



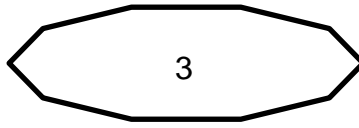
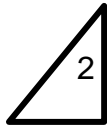
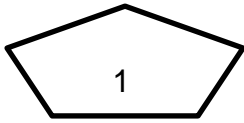
# Additional Activities

Directions: A. Look for the words in the box and complete the statement below.

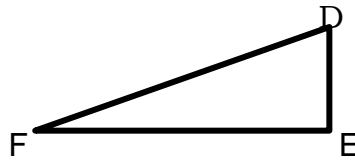
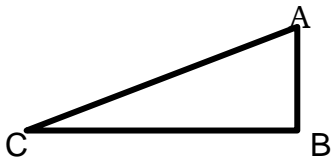
Ten      nonagon      eight      Decagon

1. A polygon with nine sides is a \_\_\_\_\_.
2. A decagon is a polygon with \_\_\_\_\_ sides.

B. Classify each polygon as regular or Irregular.



C. What angle corresponds with A



# References

Lumbre, Angelina P., Alvin C. Ursua, Donnel P. Placer, and Jaime R. Burgos. *21<sup>st</sup> Century Mathletes Textbook for Grade 5*. edited Mercurio T. Elenzano, EdD, Chin Uy, Ph.D..Quezon City.Vibal Group, Inc..2016

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