7

DepED
DEPARTMENT OF EDUCATION

Lesson Exemplar for Mathematics

Quarter 1
Week
2

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BAGONG PILIPINAS
ONE NCR STRONGER TOGETHER

Learning Activity Sheet for Mathematics Grade 7
Quarter 1: Week 2

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MATATAG **K to 10 Curriculum** **Weekly Lesson Log**	School		Grade Level	Grade 7
	Name of Teacher		Learning Area	Mathematics
	Teaching Dates and Time		Quarter	1

	DAY 1	**DAY 2**	**DAY 3**	**DAY 4**
I. CURRICULUM CONTENT, STANDARDS, AND LESSON COMPETENCIES				
A. *Content Standards*	The learners demonstrate knowledge and understanding of 1. regular and irregular polygons and their features/properties; and 2. determination of measures of angles and the number of sides of polygons.			
B. *Performance Standards*	By the end of the quarter, the learners are able to: 1. draw, and describe the features/properties of, regular and irregular polygons.			
C. *Learning Competencies*	The learners 1. draw and describe regular and irregular polygons with 5, 6, 8, or 10 sides, based on measurements of sides and angles, using a ruler and protractor	The learners 1. draw and describe regular and irregular polygons with 5, 6, 8, or 10 sides, based on measurements of sides and angles, using a ruler and protractor	The learners 1. draw and describe regular and irregular polygons with 5, 6, 8, or 10 sides, based on measurements of sides and angles, using a ruler and protractor	The learners 1. draw and describe regular and irregular polygons with 5, 6, 8, or 10 sides, based on measurements of sides and angles, using a ruler and protractor
D. *Learning Objectives*	At the end of the lesson, the learners will be able to: 1. determine the sum of the interior angles of a polygon 2. determine the measure of the interior angles of a regular polygon. 3. draw regular polygons with 5, 6. 8, and 10 sides.	At the end of the lesson, the learners will be able to: 1. draw irregular polygons with 5, 6, 8, or 10 sides based on measurements of sides and angles, using a ruler and protractor.	At the end of the lesson, the learners will be able to: 1. describe the relationships between angle pairs based on their measures. 2. identify supplementary and complementary angles. 3. determine measures of angles given pairs of supplementary or complementary angles.	At the end of the lesson, the learners will be able to: 1. describe the relationships between angle pairs based on their measures. 2. define and identify linear pairs and vertical angles. 3. determine the measure of angles given linear pairs and vertical angles.

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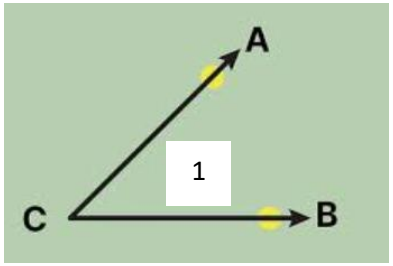
E. Instructional Design framework feature (s)	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity	Context, Connection Collaboration, Creativity
F. 21st Century Skills	Visual Literacy Technological Literacy Digital Literacy Critical Thinking Problem-Solving	Visual Literacy Technological Literacy Digital Literacy Critical Thinking Problem-Solving	Visual Literacy Technological Literacy Digital Literacy Critical Thinking Problem-Solving	Visual Literacy Technological Literacy Digital Literacy Critical Thinking Problem-Solving Collaboration
II. CONTENT	Drawing Regular Polygons with sides 5, 6, 8 or 10	Drawing Irregular Polygons with sides 5, 6, 8 or 10	Angle Pairs - Complementary and Supplementary Angles	Angle Pairs - Linear Pairs and Vertical Angles.
III. LEARNING RESOURCES				
A. References				
B. Other Learning Resources				
IV. TEACHING AND LEARNING PROCEDURES				
Before/Pre-Lesson Proper				
Activating Prior Knowledge	The teacher will ask the students what is a regular polygon. Ans. A regular polygon is a polygon with equal sides and equal angles. Give the students an illustration of a triangle and a quadrilateral. Ask them to measure the sides and the angles using a ruler and protractor.	The teacher will ask the students to recall what are irregular polygons. The teacher will ask a volunteer student to draw an irregular triangle and quadrilaterals on the board.	The teacher will show the illustration to the class and ask what is it.  ANS. An angle.	The teacher will show the illustration to the class and ask the following questions: **Activity #1** Identify if the given angles are complementary or supplementary 

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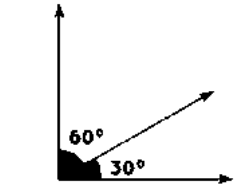
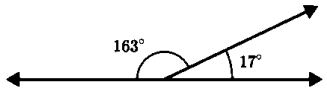
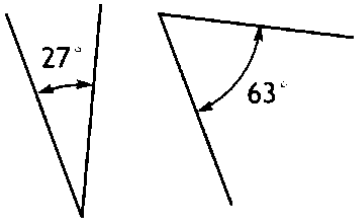
	Ask the students what their findings are. ANS. The sides are equal and the angles are equal. How about the measures of the angles of the triangle? quadrilateral? ANS. All angles of the triangles measure 60°, and all angles in a quadrilateral measures 90°. What do we call the given polygons? ANS. Regular Polygons ● The teacher will ask for volunteer students to draw regular triangles and quadrilaterals using a ruler and protractor.		● The teacher will then ask the following questions: a. What is an angle? b. Can you name the parts of an angle? c. How do we name angles? d. Can you point out the interior parts of the angle? e. How about the exterior part?	  
Lesson Purpose/ Intention	The lesson for the day is drawing regular polygons with 5, 6, 8, and 10 sides.	The lesson for the day is drawing irregular polygons with 5, 6, 8, and 10 sides.	The lesson for the day is angle pairs - complementary and supplementary angles.	The lesson for the day is linear pairs and vertical angles.
Lesson Language Practice	To facilitate language practice, the learners will do **Activity # 1** Group Activity The class will be given sets of letters to form words. The first group to form the word will be given a point. 1. Polygon with 6 sides	To facilitate language practice, the learners will play Pinoy Henyo: Words to guess: ● Triangle ● Regular Polygon ● Irregular polygon	To facilitate language practice, the learners will do **Learning Activity Sheet # 5**	To facilitate language practice, the learners will do **Learning Activity Sheet # 8**

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	2. Polygon with 8 sides 3. Polygon with 5 sides 4. Polygon with 10 sides 5. Polygon with 7 sides 6. Polygon with 9 sides 7. Polygon with 3 sides 8. Polygon with 4 sides	• Quadrilateral • Side/s • Angle/s • Rectangle • Hexagon		
During/Lesson Proper				
Reading the Key Idea/ Stem	To establish and understand the concepts, the teacher will present the different key ideas and concepts: • Given a triangle, -number of sides is 3 to be represented by n. -the sum of interior angles is 180° • Given a quadrilateral, -number of sides is 4 to be represented by n. -the sum of interior angles is 360° • How are the number of sides related to the sum of the interior angles of a triangle which is equal to 180°? (3-2) 180 = 180° (4-2) 180 = 360° • Therefore, we can generalize that the sum of	The teacher will then ask the following questions: • Can you draw an irregular triangle with a whole number of angles? and sides? • Can you draw an irregular polygon with angles having a whole number measure? and sides?	To establish and understand the concepts, the teacher will present the different key ideas and concepts such as: • complementary angles – two angles whose sum is 90° • supplementary angles - two angles whose sum is 180° • Two angles are adjacent when they have a common side and a common vertex	To establish and understand the concepts, the teacher will present the different key ideas and concepts such as: • Two angles are adjacent when they have a common side and a common vertex • Vertical angles are a pair of non-adjacent angles formed by the intersection of two straight lines. • Linear pairs are formed when two lines intersect each other at a single point. The sum of the two adjacent angles is 180.

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	the interior angles of a polygon is (n-2)180 where n is the number of sides. ● How about the measures of each angle of a regular polygon? Since the angles are equal, we divide the sum of the interior angles by the number of sides. $\frac{(n-2)180°}{n}$ Example: Triangle - 3 sides $= \frac{(3-2)180°}{3}$ $= \frac{(1)180°}{3}$ $= 60°$ **Activity #1** Determine the sum of the interior angles of the given polygon and the measure of each angle. 1. Hexagon 2. Heptagon 3. Octagon 4. Nonagon 5. Decagon 6. 11 gon 7. 15 gon 8. 20 gon			
Developing an Understanding of the Key Idea/ Stem	The students will be asked to draw a pentagon using the concept of the sum of interior angles and the measures of	The students will be asked to draw an irregular pentagon with the following conditions ● Sides = 3cm, 7cm, 4cm	The teacher will show the following illustrations and ask questions:	The teacher will show the illustration and then ask the following questions:

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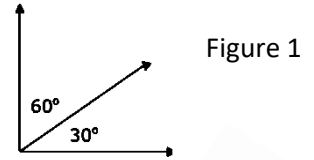
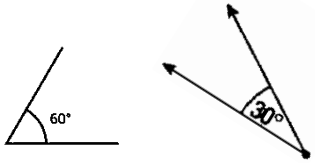
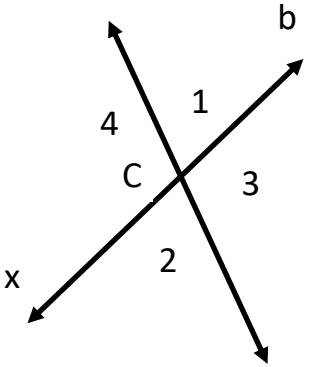
	interior angles. The teacher will let the students view the given video: https://www.youtube.com/watch?v=t64hfKExN5w **Activity #2** • The students will draw a pentagon with their preferred measures of side.	• Angles = 90°, 150°, 90°, 145°, 65°. The teacher will ask the following questions: a. are the remaining sides whole numbers? b. can we draw a pentagon given 5 angles and side measures? c. What is to be considered in drawing an irregular polygon regarding the angles? d. Is it always convex or concave? **Activity #1** DIY (Do it yourself) Hexagon The students will be asked to explore and draw an irregular hexagon with the following measures, sides = 4cm, 6cm, angles 150°, 30°, 20°	 Figure 1  Figure 2 • What can you say about the pair of angles? • In Figure 1, how do you describe the pair of angles? Are they adjacent angles? What is the sum of the angles? • How about figure 2? Are they adjacent angles? What is the sum of the angles? The teacher will state that the following are examples of complementary angles; and ask the students to define complementary angles and give examples.	• How many lines intersect?  • Can you name the lines? • At what point do they intersect? • How many angles were formed? • can you name the adjacent angles? • Can you name the vertical angles? • Can you name the linear pairs? What is the sum of their measures? Show again the illustration with the angles formed, and ask the following questions:

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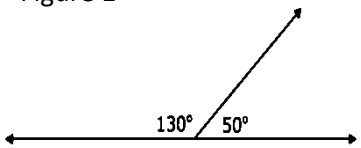
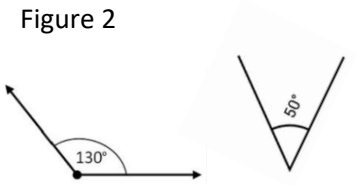
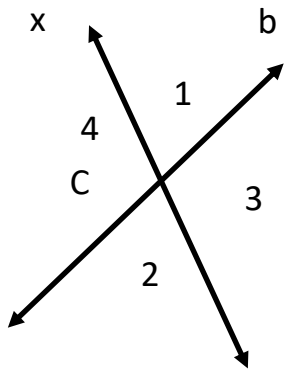
			The teacher will again show the following illustrations and ask questions: Figure 1  Figure 2  • What can you say about the pair of angles? • In Figure 1, how do you describe the pair of angles? Are they adjacent angles? What is the sum of the angles? • How about in Figure 2? Are they adjacent angles? What is the sum of the angles? • The teacher will state that the following are examples of supplementary angles;	 • 1 and 4 are linear pairs, are they supplementary? Why? What is the sum of the measures of ∠1 and ∠4? • If ∠1 = 70°, what is the measure of 4?

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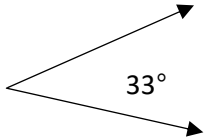
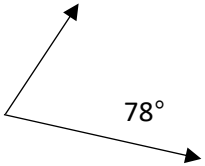
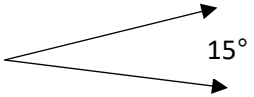
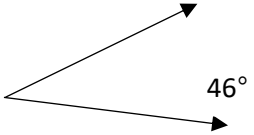
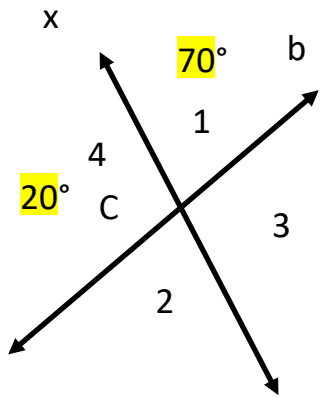
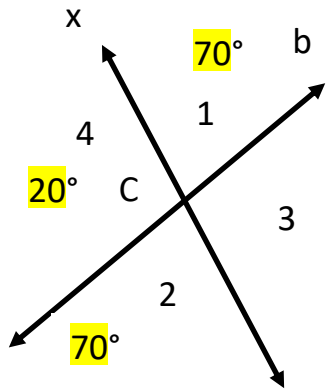
			and ask the students to define supplementary angles and give examples. **Activity #1** Give the complement of the following angle: a. 75° b. 24° c. 67° d. 45.8° e. 65.2° f.  g.  h.  i. 	 • Are ∠2 and ∠4 linear pairs? Are they supplementary? what is the measure of ∠2?  • Are ∠2 and ∠3 linear pairs? Are they supplementary? What is the measure of ∠3?

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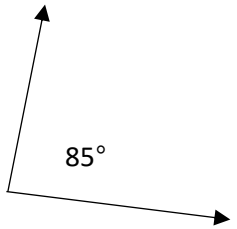
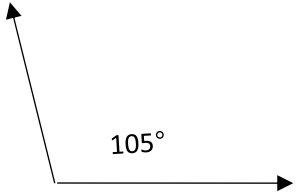
j.

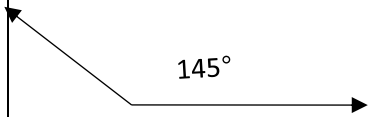


Give the supplement of the following angle:

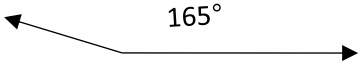
a. 95°
b. 114°
c. 147°
d. 65.8°
e. 125.2°
f.

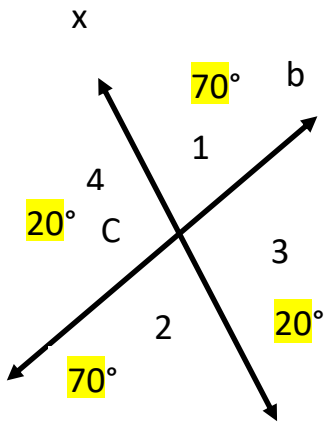


g.



h.



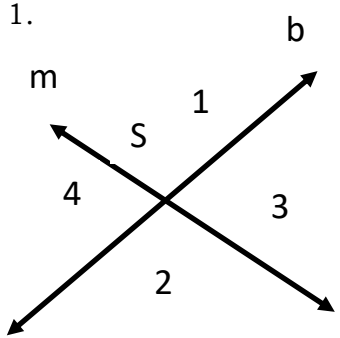


- Based on the measures, what can you say about the measures of vertical angles?

Activity # 2

Determine the measures of the angles:

1.



a. if ∠1 = 135°, find ∠2, ∠3, ∠4
b. if ∠3 = 57°, find ∠1, ∠2, ∠4

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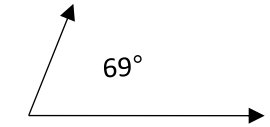
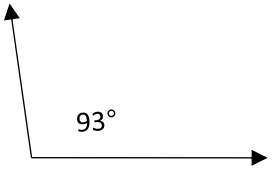
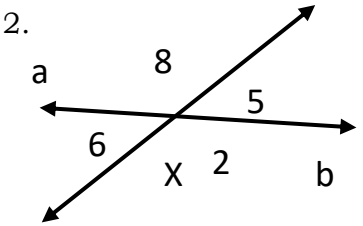
			i.  j. 	2.  a. if ∠6 = 58°, find ∠2, ∠5, ∠8 b. if ∠8 = 144°, find ∠2, ∠5, ∠6 The students will work on **Learning Activity Sheet # 9**
Deepening Understanding of the Key Idea/ Stem	The students will work on **Learning Activity Sheet # 1**	The students will work on **Learning Activity Sheet # 3**	The students will work on **Learning Activity Sheet # 6**	The students will work on **Learning Activity Sheets # 10, 11**
Making Generalizations and Abstractions	The teacher will ask the students: How to draw regular polygons?	The teacher will ask the students: How to draw irregular polygons?	The teacher will ask the students: ● How to determine if the pair of angles are complementary or supplementary? ● How to determine the supplement or complement of an angle?	The teacher will ask the students: ● What are linear pairs? ● What are the measures of the linear pair of angles? ● What are vertical angles? ● What are the measures of vertical angles?
Evaluating Learning	The students will answer **Learning Activity Sheet #2**	The students will answer **Learning Activity Sheet #4**	The students will answer **Learning Activity Sheet #7**	The students will answer **Learning Activity Sheet #12**

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Additional Activities for Application or Remediation (if applicable)	For students who do not achieve a score of 75% on the assessment, supplementary exercises are included within the activity sheet.	For students who do not achieve a score of 75% on the assessment, supplementary exercises are included within the activity sheet.	For those learners who do not attain a score of 75% on the assessment, extra exercises are available on the activity sheet as further practice.	For those learners who do not attain a score of 75% on the assessment, extra exercises are available on the activity sheet as further practice.
Remarks	The lesson focuses on drawing regular polygons. Other remarks can be noted as the need arises.	The lesson focuses on drawing irregular polygons. Other remarks can be noted as the need arises.	The lesson focuses on Angle Pairs - Complementary and Supplementary Angles Other remarks can be noted as the need arises	The lesson focuses on Angle Pairs - Linear Pairs and Vertical Angles. Other remarks can be noted as the need arises
Reflection				

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