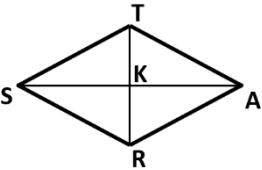


DAILY LESSON LOG OF M9GE-IIIc-1 (Day 2)

School		Grade Level	Grade 9
Teacher		Learning Area	Mathematics
Teaching Date and Time		Quarter	First
I. OBJECTIVES	<i>Objectives must be met over the week and connected to the curriculum standards. To meet the objectives, necessary procedures must be followed and if needed, additional lessons, exercises and remedial activities may be done for developing content knowledge and competencies. These are assessed using Formative Assessment Strategies. Valuing objectives support the learning of content and competencies and enable children to find significance and joy in learning the lessons. Weekly objectives shall be derived from the curriculum guides.</i>		
A. Content Standards	The learner demonstrates understanding of key concepts of parallelograms and triangle similarity.		
B. Performance Standards	The learner is able to investigate, analyze, and solve problems involving parallelograms and triangle similarity through appropriate and accurate representation.		
C. Learning Competencies/ Objectives	<i>Learning Competency:</i> Proves theorems on the different kinds of parallelogram (rectangle, rhombus, square). (M9GE-IIIc-1) <i>Learning Objectives:</i> 1. State the theorems related to a rhombus 2. Apply the theorems related a rhombus in finding unknown quantities; and 3. Demonstrate the value of cooperation in doing the activities		
II. CONTENT	Theorems Related to a Rhombus		
III. LEARNING RESOURCES			
A. References			
1. Teacher’s Guide			
2. Learner’s Materials			
3. Textbook pages			
4. Additional Materials from Learning Resource (LR) portal			
B. Other Learning Resources			
IV. PROCEDURES	<i>These steps should be done across the week. Spread out the activities appropriately so that pupils/students will learn well. Always be guided by demonstration of learning by the pupils/ students which you can infer from formative assessment activities. Sustain learning systematically by providing pupils/students with multiple ways to learn new things, practice the learning, question their learning processes, and draw conclusions about what they learned in relation to their life experiences and previous knowledge. Indicate the time allotment for each step.</i>		
A. Review previous lesson or presenting the new lesson	The teacher lets the students recall the definition and properties of a rhombus by asking representatives from the class to: 1. Define a rhombus 2. State the properties of rhombus. <i>Answer:</i> 1. A rhombus is a parallelogram with all sides congruent. 2. The properties of a parallelogram inherent to a rhombus are the following: • Opposite sides are congruent • Opposite angles are congruent • Two consecutive angles are supplementary. • The diagonals bisect each other. • A diagonal of a parallelogram forms two congruent triangles.		
B. Establishing a purpose for the lesson	The teacher lets the students realize that the properties of a parallelogram still holds TRUE to a rectangle and they are necessary elements in understanding the theorems on rectangles.		
C. Presenting examples/ instances of the new lesson	The teacher, together with the students, will prove the theorems related to a rhombus by inspecting its parts thru a diagram. He/She will use an enlarged graphing grid and draw rhombus CUTE with diagonals $\overline{CT}$ and $\overline{UE}$ intersecting at M. 		

	● To prove Theorem 3, the teacher will: 1. Call representatives from the class to get the measure of $\angle UMC$, $\angle UMT$, $\angle EMC$, and $\angle EMT$, respectively. 2. Ask the students to make an inference regarding the measures they get of the angles. 3. Ask the students to make another inference, this time, about the two diagonals of the rhombus. 4. State theorem 3. Answer: 1. $\angle UMC = 90^\circ$, $\angle UMT = 90^\circ$, $\angle EMC = 90^\circ$, $\angle EMT = 90^\circ$ 2. <i>They all measure the same. They are all right angles.</i> 3. <i>The diagonals are perpendicular.</i> 4. <i>Diagonals of a rhombus are perpendicular.</i>
D. Discussing new concepts and practicing new skills #1	The teacher facilitates the drawing of inferences from the students and making connections of the exercises to prove that each diagonals of a rhombus are perpendicular. He/She connects the theorem to the concept of perpendicular bisectors. He/She explains that the diagonals of rhombus are perpendicular bisectors of each other because they bisect and are perpendicular to each other.
E. Discussing new concepts and practicing new skills #2	Using the same diagram, the teacher presents theorem 4 which states “<i>Each diagonal of a rhombus bisects opposite angles.</i>” Suppose that in the diagram, $\angle UCE = 70^\circ$, the teacher explains that diagonal $\overline{CT}$ bisects this angles. Hence, $\angle UCT = \angle ECT = 35^\circ$. The teacher emphasizes the meaning of the word “<i>bisect</i>” is to divide it into two equal parts. Afterwards, the teacher asks the students the following questions: 1. What is the measure of $\angle CUT$? What principle did you use to get this measure? 2. What is the measure of $\angle CUE$? What principle did you use to get this measure? Answer: 1. $\angle CUT = 110^\circ$. In a parallelogram, two consecutive angles are supplementary. 2. $\angle CUE = 55^\circ$. Each diagonal of a rhombus bisects opposite angles.
F. Developing mastery (leads to formative assessment 3)	The teacher lets the students, in groups of three, answer the exercise below. Using the diagram of rhombus STAR, answer the following questions and support your answer using the properties or theorems related to a rhombus. 1. What is the measure of $\angle SKR$? 2. Suppose $\angle RAT = 64^\circ$, 2.1. what is the measure of $\angle RAK$? 2.2. what is the measure of $\angle ARS$? 2.3. what is the measure of $\angle KRS$?  Answer: 1. 90°. The diagonals of in a rhombus are perpendicular. 2.1. 32°. Each diagonal of a rhombus bisects opposite angles. 2.2. 116°. In a parallelogram, two consecutive angles are supplementary. 2.3. 58°. Each diagonal of a rhombus bisects opposite angles.
G. Finding practical applications of concepts and skills in daily living	

H. Making generalizations and abstractions about the lesson	The teacher emphasizes that the theorems on rhombuses becomes additional properties to the properties of a parallelogram inherent to a rhombus. The teacher explains briefly the importance of knowing these theorems and properties in finding unknown quantities related to a rhombus.
I. Evaluating Learning	The teacher evaluates students’ learning by letting them answer the exercise blow orally. Using the diagram of rhombus RAMS, answer the following questions and support your answer using the properties or theorems related to a rhombus. - Suppose the measure of $\angle SMA = 100$, - what is the measure of $\angle AMR$? - what is the measure of $\angle ARM$? - what is the measure of $\angle MSA$? - What is the measure of $\angle MCS$? <i>Answer:</i> 50°. Each diagonal of a rhombus bisects opposite angles. 50°. In a parallelogram, opposite angles are congruent. Each diagonal of a rhombus bisects opposite angles. 40°. In a parallelogram, two consecutive angles are supplementary. Each diagonal of a rhombus bisects opposite angles. 90°. The diagonals of in a rhombus are perpendicular.
J. Additional activities or remediation	
V. REMARKS	
VI. REFLECTION	<i>Reflect on your teaching and assess yourself as a teacher. Think about your students’ progress. What works? What else needs to be done to help the pupils/students learn? Identify what help your instructional supervisors can provide for you so when you meet them, you can ask them relevant questions.</i>
A. No. of learners who earned 80% of the evaluation	
B. No. of learners who require additional activities for remediation who scored below 80%	
C. Did the remedial lesson work? No. of learners who have caught up with the lesson.	
D. No. of learners who continue to require remediation	
E. Which of my teaching strategies worked well? Why did these work?	
F. What difficulties did I encounter which my principal or supervisor can help me solve?	
G. What innovation or localized materials did I use/ discover which I wish to share with other teachers	Box, wood

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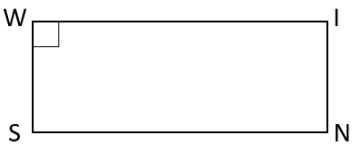
Activity 1
Prove It!!

Theorem 1: If a parallelogram has a right angle, then it has four right angles and the parallelogram is a rectangle.

Directions: Complete the proof of Theorem 1 using the statements and reasons found in the box below the 2-column table.

Given: □WINS is a parallelogram with which ∠W is a right angle.

Prove: □WINS is a rectangle.



Proof:

Statements	Reasons
1.	1. Given
2. ∠W is a right angle	2.
3. ∠W = 90°	3.
4.	4. In a parallelogram, opposite angles are congruent.
5. m∠W = m∠N, and m∠I = m∠S	5.
6. m∠N = 90	6.
7. m∠W + m∠I = 180	7.
8. 90 + m∠I = 180	8.
9. m∠I = 90	9.
10.	10. Transitive Property
11.	11. Definition of a right angle.
12. □WINS is a rectangle	12.

Statements:		
mS = 90	I, N, and S are right angles.	
□WINS is a parallelogram with which W is a right angle.	W N and I S	
Reasons:		
Subtraction Property	Transitive Property	Substitution Property
In a parallelogram, adjacent angles are supplementary.		Definition of a rectangle.
Definition of congruent angles.	Given	Definition of a right angle.