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

School		**Grade Level**	Grade 9
Teacher		**Learning Area**	Mathematics
Teaching Date and Time		**Quarter**	First
I. OBJECTIVES	*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.*		
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	*Learning Competency:* Proves theorems on the different kinds of parallelogram (rectangle, rhombus, square). **(M9GE-IIIc-1)** *Learning Objectives:* 1. Choose the right statements and reasons to complete the 2-column proof of a theorem on rectangle 2. Apply the theorem on rectangle to solve an unknown quantity; and 3. Demonstrate appreciation of proving a theorem.		
II. CONTENT	Theorem on Rectangle		
III. LEARNING RESOURCES	teacher's guide, learner's module		
A. References			
1. Teacher's Guide			
2. Learner's Materials	Pages 217 - 218		
3. Textbook pages			
4. Additional Materials from Learning Resource (LR) portal			
B. Other Learning Resources			
IV. PROCEDURES	*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.*		
A. Review previous lesson or presenting the new lesson	The teacher together with the students do Activity 8 (I Wanna Know!) found in page 320 of the LM. He/She facilitates the students as they find the answers to the questions from the activity. *Answer:* 1. $\angle OHE$=90^0; $\angle PEH$=90^0 2. Students responses may vary: ● They all measure 90^0. ● They are all right angles. 3. Roughly, both measure 11.7 cm 4. Yes, it follows the definition of a parallelogram—both pairs of opposite sides are parallel. 5. Rectangle		
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 lets the students, in groups of three, complete the proof of theorem 1 found in the Activity 1 (Prove It!!) attached herewith. *Answer:* **Statements** **Reasons**		

	1. □WINS is a parallelogram with which ∠W is a right angle. 4. ∠W ≅∠N and ∠I ≅∠S 10. m∠S = 90 11. ∠I, ∠N, and ∠S are right angles. 2. Given 3. Definition of a right angle. 5. Definition of congruent angles. 6. Transitive Property 7. In a parallelogram, adjacent angles are supplementary. 8. Substitution Property 9. Subtraction Property 12. Definition of a rectangle.
D. Discussing new concepts and practicing new skills #1	The teacher discusses with the students the process of arriving at their answer. He/She asks the students justify their choices of statements and reasons.
E. Discussing new concepts and practicing new skills #2	
F. Developing mastery (leads to formative assessment 3)	The teacher lets the students, still with same groups of three, prove theorem 2 found in pages 321 – 322 of the LM using the possible statements and reasons that the teacher posted on the board. ** **Statements:** WSN INS ΔWSN ΔINS □WINS is a rectangle with diagonals and WSN = 90° **Reasons:** Reflexive Property Transitive Property In a parallelogram, opposite sides are congruent. Given Definition of a rectangle. Corresponding Sides of Congruent Triangles are Congruent (CPCTC) *Answer:* **Statements** 1. □WINS is a rectangle with diagonals $\overline{WN}$ and $\overline{SI}$ 4. ∠WSN ≅ ∠INS 6. ΔWSN ≅ ΔINS **Reasons** 2. In a parallelogram, opposite sides are congruent. 3. Definition of a rectangle. 5. Reflexive Property 7. CPCTC
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 rectangles were additional properties of a rectangle. The teacher explains briefly the importance of proving theorems as they are statements deduced from other laws, postulates or definitions.
I. Evaluating Learning	Using the situation below, the teacher lets the students answer the questions orally. □SACK is a square with diagonals $\overline{AK}$ and $\overline{SC}$. 1. Is □SACK a rectangle? Justify your answer. 2. If $\overline{AK}$ = 12 cm, how long is $\overline{SC}$? *Answers:* 1. Yes. □SACK is a square and this means that it is a parallelogram with all its angles right. This means that it has the conditions stated in theorem 1. Thus, □SACK is a rectangle. 2. 12 cm

J. Additional activities or remediation	
V. REMARKS	
VI. REFLECTION	*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.*
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

Prepared by:

JESSA MAE A. RICARTE
Cabancalan National High School

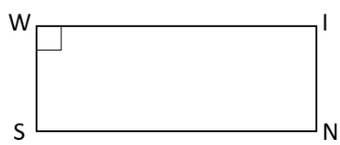
Activity 1
Prove It!!

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. $\angle W = 90^0$	3.
4.	4. In a parallelogram, opposite angles are congruent.
5. $m\angle W = m\angle N$, and $m\angle I = m\angle S$	5.
6. $m\angle N = 90$	6.
7. $m\angle W + m\angle I = 180$	7.
8. $90 + m\angle I = 180$	8.
9. $m\angle I = 90$	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.