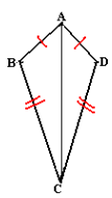
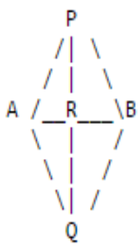
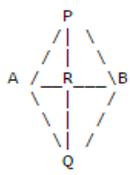
DAILY LESSON LOG of (M9AL-III-2) (Day 2)						
School		**Grade Level**		**Grade 9**		
Teacher		**Learning Area**		Mathematics		
Teaching Date and Time		**Quarter**	**3rd**	DLP NO:		

I. OBJECTIVES	
A. Content Standards	The learner demonstrate understanding of key concepts of quadrilaterals (parallelograms, trapezoids, kites)
B. Performance Standards	The learner is able to investigate, analyze and solve problems involving quadrilaterals (parallelograms, trapezoids, kites)
C. Learning Competencies / Objectives	Learning Competencies: Proves theorems on trapezoids and kites (M9AL-IIi-1) Learning Objectives: 1. Identify the different theorems of the kite 2. Prove the theorems of the kite 3. Display attentiveness in solving the theorems of the kite
II. CONTENT	**Proving Theorems on Kite**
III. LEARNING RESOURCES	
References	
1. Teacher's Guide pages	219 - 220
2. Learner's Materials pages	335 - 336
3. Textbook pages	Grade 9 Mathematics by Gladys C. Nivera, Ph.D. and Minie Rose C. Lapinid, Ph.D. pages. 315 - 318
4. Additional Materials from Learning Resource (LR) portal	
Other Learning Resources	https://socratic.org/questions/how-do-you-prove-that-a-shape-is-a-kite http://mathforum.org/library/drmath/view/55206.html
IV. PROCEDURES	
A. Review previous lesson or presenting the new lesson	The teacher asks the following questions to the students to help them recall on the previous topic. 1. What is a trapezoid? 2. What are the properties of an isosceles trapezoid? 3. What are the conditions of a trapezoid? 4. What quadrilateral has two pairs of congruent and adjacent sides? Answers: 1. A trapezoid is a quadrilateral with exactly one pair of opposite sides parallel 2. The properties of isosceles trapezoid are: ● Each pair of isosceles angles is congruent. ● Diagonals are congruent. 3. The conditions for a trapezoid are: ● If a pair of base angles of a trapezoid are congruent, then the trapezoid is isosceles ● If the diagonals of a trapezoid are congruent, then the trapezoid is isosceles. 4. Kite
B. Establishing a purpose for the lesson	The teacher lets the students supply the appropriate statement/reason in proving the theorem of a trapezoid.

C. *Presenting examples/ instances of the new lesson*	The teacher tells the students that today, kites come in different colors, shapes and designs.     Trivia for the students: A simple kite would look like this! Kites were invented in China. They were made of split bamboo and silk and were used in the military for signalling and observation.  The teacher asks the students the following questions: 1. Do you have a kite? Observe and describe the shape. 2. How many pairs of congruent angles are there? 3. Are the diagonals congruent? Perpendicular? Do they intersect at their midpoints? 4. Do the diagonals bisect the kite's angles? If so, which ones? Answer: 1. Yes. The kite has four sides. 2. Only 1 3. The diagonals are not congruent. The diagonals are perpendicular and it also intersects at their midpoint. 4. Yes, the diagonals bisect the kite's angle.
D. *Discussing new concepts and practicing new skills #1*	1. The teacher asks the student to describe a kite. Answer: A kite is a quadrilateral with two distinct pairs of consecutive sides that are congruent. 2. The teacher presents the properties of a kite using kite DEFG. Properties of a Kite a. Diagonals are perpendicular. $\overline{EG}$ is perpendicular to $\overline{DF}$ b. Exactly one pair of opposite angles are congruent. <E ≅ <G c. A diagonal bisect each of the noncongruent angles and the other diagonals. Diagonal $\overline{FD}$ is the angular bisector of < F and <D.
E. *Discussing new concepts and practicing new skills #2*	1. The teacher presents the two theorems related to kite. *Theorem 10:* In a kite, the perpendicular bisector of a least one diagonal is the other diagonal. *Theorem 11 :* The area of a kite is half the product of the length of its diagonals. 2. The teacher presents a sample proof of a kite. Given: ABCD is a kite with AB ≅ AD and BC ≅ CD. Prove: ∠A ≅ ∠C  Proof : Statements / Reasons 1)AB ≅ AD — 1) Given 2) BC ≅ CD — 2) Given 3) AC ≅ AC — 3) Reflexive (common side) 4) ΔABC ≅ ΔADC — 4) SSS Postulates 5) ∠ABC ≅ ∠ADC — 5) CPCTC
F. *Developing mastery (leads to formative assessment 3)*	The teacher lets the students, in groups of five, prove the following theorem of the kite. The teacher lets the students choose the appropriate statement/proof from the box. The teacher refers to the provided proof on pages 336 to 337 of the LM. For theorem 10. bisect — Kite WORD with diagonals Definition of kite — Definition of congruent segments

	For theorem 11. SAP Kite ROPE Distributive Property of Equality Substitution Answer: To the Theorem 10. In a kite, the perpendicular bisector of a least one diagonal is the other diagonal. *Statements*: 1. Kite WORD with diagonals $\overline{WR}$ *and* $\overline{OD}$; 4. $\overline{WR}$ bisect $\overline{OD}$ *Reasons:* 2. Definition of kite; 3. Definition of congruent segments To the Theorem 11. The area of a kite is half the product of the length of its diagonals. *Statements:* 1. Kite ROPE; 2. $\overline{PR}$ *bisect* $\overline{OE}$ *Reasons:* 5. Substitution; 6. Distributive Property of Equality; 7. SAP; 8. Substitution
G. Finding practical applications of concepts and skills in daily living	
H. Making generalizations and abstractions about the lesson	The teacher asks the students, "What are the two theorems related to kite? Answer: *Theorem:* In a kite, the perpendicular bisector of a least one diagonal is the other diagonal. *Theorem:* The area of a kite is half the product of the length of its diagonals.
I. Evaluating Learning	The teacher instructs the students to prove: Given: AP = BP AQ = BQ Prove: PQ is perpendicular to AB  PROOF Statements / Reasons 1. / 1. Given 2. / 2. Given 3. PQ = PQ / 3. 4. triangle PAQ = triangle PBQ / 4. 5. <APR = <BPR / 5. CPCTC* 6. PR = PR / 6. Reflexive property 7. triangle PRA = triangle PRB / 7. SAS 8. m<PRA = m<PRB / 8. CPCTC* 9. <PRA, <PRB are linear pair / 9. If alt. int. lines are congruent, the lines are parallel 10. / 10. If 2 <'s are congruent and

	Answer: Given: AP = BP AQ = BQ Prove: PQ is perpendicular to AB  PROOF Statements — Reasons 1. AP = BP — 1. Given 2. AQ = BQ — 2. Given 3. PQ = PQ — 3. Reflexive property 4. triangle PAQ = triangle PBQ — 4. SSS 5. <APR = <BPR — 5. CPCTC* 6. PR = PR — 6. Reflexive property 7. triangle PRA = triangle PRB — 7. SAS 8. m<PRA = m<PRB — 8. CPCTC* 9. <PRA, <PRB are linear pair — 9. If alt. int. lines are congruent, the lines are parallel 10. m<PRA = m<PRB = 90 — 10. If 2 <'s are congruent and form a linear pair, each is a right angle 11. PQ is perpendicular to AB — 11. Def. of perpendicular lines *CPCTC = Corresponding parts of congruent triangles are congruent
J. Additional activities or remediation	
V. REMARKS	
VI. REFLECTION	
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	

Prepared by:

ANNALYN P. CORTES
Tipolo National High School