School		Grade Level	Grade 9
Teacher		Learning Area	Mathematics
Teaching Date and Time		Quarter	Third
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 quadrilaterals (parallelogram, trapezoid, kites) and triangle similarity.		
B. Performance Standards	The learner is able to investigate, analyze and solve problems involving quadrilaterals (parallelogram, trapezoid, kites) and triangle similarity through appropriate and accurate representation.		
C. Learning Competencies/ Objectives	Learning Competency: Uses properties to find the measure of angles, sides and other quantities involving parallelograms (M9AL-GE-IIIb-1) Learning Objectives: 1. Use properties of parallelogram to find the measure of angles, sides and other quantities involving parallelograms. 2. State the properties of parallelogram. 3. Show appreciation on the uses of parallelograms in everyday life.		
II. CONTENT	Using Properties to find the N involving parallelograms.		
III. LEARNING RESOURCES	meering parameters, annot		
A. Content Standards			
1. Teacher's Guide pages	p.212-222		
2. Learner's Materials pages	p.305-325		
3. Textbook pages	Empowering Math 9 p.212-25 Practicalities p.364-367	1, grade 9 Mathemat	ics Patterns and
4. Additional Materials from Learning Resource (LR) portal	·		
B. Other Learning Resources			
IV. PROCEDURES	These steps should be don appropriately so that pupils, demonstration of learning by formative assessment activit, pupils/students with multiple question their learning proclearned in relation to their lighthe time allotment for each state.	students will learn the pupils of student of the pupils of student ies. Sustain learning ways to learn new the sses, and draw cofe experiences and p	well. Always be guided by ts which you can infer from systematically by providing hings, practice the learning, nclusions about what they
A. Review previous lesson or presenting the new lesson	The teacher asks the students State the properties of paralle Definition of parallelogram. Answer Keys:	logram. rallelogram are paral parallelogram are cor rallelogram are congrallelogram bisect eac	ngruent. ruent.

_		I=1		
В.	Establishing a purpose	The teacher lets the students realize that their knowledge of congruent		
	for the lesson	triangles, parallel lines, and angles are certainly needed in the study of the		
		properties of parallelogram can be used in finding the measures of angles sides		
		and other properties involving parallelogram and it very useful in everyday life.		
		The teacher presents examples to students and let them answer orally.		
		D.		
		V		
		If EV=8 and LE=5,find		
c.	Presenting examples/	a. LO		
	instances of the new	b. OV		
	lesson	If OE is 4 cm less than LV, and LD=10cm, find DE.		
	1622011	Answer Key:		
		a.8		
		b.5		
		DE=8		
		The teacher discusses and illustrates thoroughly to the students the process of		
		using the properties in finding its measures.		
		The teacher lets the students to use the properties to solve parallel. In Groups		
		of five.		
		Н		
		P		
		Complete each the statement for parallelogram HOPE.		
		1. If $m \angle OPS = 28^\circ$, then $m \angle E = $		
		2. If $m \angle HEP = 53^{\circ}$, then $m \angle OPE = $		
		3. If HE=24, then OP=		
		4. If $m \angle HEP = (4x + 17)^0$ and $m \angle O = (6x - 29)^0$		
		then $m \angle H = \underline{\qquad} and \ m \angle O = \underline{\qquad}$		
		5. If the perimeter of is equal to 480mm and HO=130mm, HE=		
		Answer Key:		
		1. 180°-28°=152° Consecutive angles of a parallelogram are		
		supplementary.		
l_		$m\angle E = 152^{\circ}$ Opposite angles of a parallelogram are congruent.		
D.	Discussing new concepts	2. 180°-53°=127° Consecutive angles of a parallelogram are		
	and practicing new skills	supplementary.		
	#1	2 24 Ourseits sides of a smallele survey and account		
		3. 24 Opposite sides of a parallelogram are congruent. 4. 4x+17=6x-29		
		4. 4x+17=6x-29 17+29=6x-4x		
		46/2=2x/2		
		23=x		
		$m \angle HEP = (4x + 17)^0$		
		= 4(23) +17		
		m∠ <i>HEP</i> =109 ⁰		
		$m\angle HEP = m\angle O = 109^{\circ}$ Opposite angles of a parallelogram are		
		congruent		
		$180^{\circ} - \text{m} \angle HEP = 71^{\circ}$		
		180°- 109°=71° Consecutive angles of a parallelogram are		
		supplementary.		
		F D-21+21M		
		5. P=2L+2W		
		480=2(130)+2(W) Opposite sides of a parallelogram are congruent 480=260+2w		
		480-260+2W 480-260=2W		
		220/2=2w/2		
		110=w		
		1		

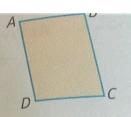
E.	Discussing new concepts and practicing new skills #2	The teacher lets the students to discuss the given activity by using the properties of parallelogram. He/ She discuss thoroughly in solving the unknown value of the properties of parallelogram.	
F.	Developing mastery (leads to formative assessment 3)		
G.	Finding practical applications of concepts and skills in daily living		
н.	Making generalizations and abstractions about the lesson	The teacher summarizes the properties of parallelogram in finding the measures of angles, sides and other quantities involving parallelogram. PROPERTIES OF PARALLELOGRAM: Opposite side of a parallelogram are parallel (definition of parallelogram). Opposite angles of a parallelogram are congruent. Opposite side of a parallelogram are congruent. The diagonal of a parallelogram bisect each other. Each diagonal divides a parallelogram into to congruent triangles. Diagonals bisect each other.	
ı.	Evaluating Learning	The teacher lets the students answer individually the formative assessment. Complete the table each parallelogram FAITH and justify your answer. $1. \overline{AF} \parallel =$ $2. \Delta AHT =$ $3. \angle HTF =$ $4. HI=$ $5. \text{m} \angle F + m \angle G =$ $4. \text{HI}$ $2. \Delta AHT = \Delta TFA$ $4. \text{HI}$ $5. \text{m} \angle F + m \angle G =$ $4. \text{HI}$ $5. \text{m} \angle F + m \angle G =$ $4. \text{HI}$ $5. \text{Dipposite side of a parallelogram are congruent}$ $6. \text{Congruent triangles}$ $6. Congr$	
J.	Additional activities or remediation	Study the properties of Paralleogram	
٧	. REMARKS		
V	/I. 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		

DAILY LESSON LOG OF M9-GE-IIIb-1(Day 8)

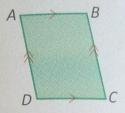
B.	No. of learners who require additional activities for remediation who scored below 80%	
C.	Did the remedial lesson work? No. of learners who have caught up with the lesson.	
D.	No. of learners who continue to require remediation	
E.	Which of my teaching strategies worked well? Why did these work?	
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:

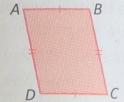
MA. CRISTINA C. LAMPARAS BANILAD NHS **EXAMPLE 1** ABCD is a parallelogram.



1. The opposite sides are parallel. $\overline{AB} \parallel \overline{DC}$ and $\overline{AD} \parallel \overline{BC}$



2. The opposite sides are congruent. $\overline{AB} \cong \overline{DC}$ and $\overline{AD} \cong \overline{BC}$



3. The opposite angles are congruent.

opposite angles are congruent.
$$\angle A \cong \angle C$$
 and $\angle B \cong \angle D$

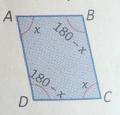
4. The consecutive angles are supplementary.

$$m \angle A + m \angle B = 180^{\circ}$$

$$m\angle D + m\angle C = 180^{\circ}$$

$$m\angle A + m\angle D = 180^{\circ}$$

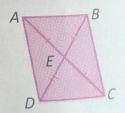
$$m \angle B + m \angle C = 180^{\circ}$$



5. The diagonals bisect each other.

Diagonal AC bisects BD, this means $\overline{BE} \cong \overline{DE}$

Diagonal BD bisects AC, this means $\overline{AE} \cong \overline{CE}$



6. Each diagonal bisects the parallelogram into two congruent triangles.

For diagonal AC, $\triangle ABC \cong \triangle CDA$

For diagonal BD,

 $\triangle ABD = \triangle CDB$

