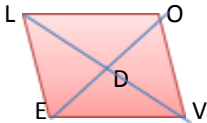
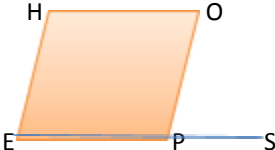


DAILY LESSON LOG OF M9-GE-IIIb-1(Day 8)

|                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |             |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|
| School                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Grade Level   | Grade 9     |
| Teacher                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Learning Area | Mathematics |
| Teaching Date and Time                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quarter       | Third       |
| 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 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 <b>(M9AL-GE-IIIb-1)</b><br>Learning Objectives:<br><ol style="list-style-type: none"><li>1. Use properties of parallelogram to find the measure of angles, sides and other quantities involving parallelograms.</li><li>2. State the properties of parallelogram.</li><li>3. Show appreciation on the uses of parallelograms in everyday life.</li></ol>                                                                                                         |               |             |
| II. CONTENT                                                | <b>Using Properties to find the Measures of Angles, Sides and other quantities involving parallelograms.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |             |
| III. LEARNING RESOURCES                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |             |
| 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.212-251, grade 9 Mathematics Patterns and Practicalities p.364-367                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |             |
| 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 asks the students to the following:<br>State the properties of parallelogram.<br>Definition of parallelogram.<br>Answer Keys: <ul style="list-style-type: none"><li>• Opposite side of a parallelogram are parallel (definition of parallelogram).</li><li>• Opposite angles of a parallelogram are congruent.</li><li>• Opposite side of a parallelogram are congruent.</li><li>• The diagonal of a parallelogram bisect each other.</li><li>• Each diagonal divides a parallelogram into to congruent triangles.</li></ul>                                                 |               |             |

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| B. Establishing a purpose for the lesson                | <p>The teacher lets the students realize that their knowledge of congruent 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.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| C. Presenting examples/ instances of the new lesson     | <p>The teacher presents examples to students and let them answer orally.</p> <div></div> <p>If <math>EV=8</math> and <math>LE=5</math>, find</p> <ol style="list-style-type: none"><li>LO</li><li>OV</li></ol> <p>If OE is 4 cm less than LV, and <math>LD=10\text{cm}</math>, find DE.</p> <p>Answer Key:</p> <ol style="list-style-type: none"><li>8</li><li>5</li></ol> <p>DE=8</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| D. Discussing new concepts and practicing new skills #1 | <p>The teacher discusses and illustrates thoroughly to the students the process of using the properties in finding its measures.</p> <p>The teacher lets the students to use the properties to solve parallel. In Groups of five.</p> <div></div> <p>Complete each the statement for parallelogram HOPE.</p> <ol style="list-style-type: none"><li>If <math>m\angle OPS=28^\circ</math>, then <math>m\angle E = \underline{\hspace{2cm}}</math></li><li>If <math>m\angle HEP=53^\circ</math>, then <math>m\angle OPE = \underline{\hspace{2cm}}</math></li><li>If <math>HE=24</math>, then <math>OP=\underline{\hspace{2cm}}</math></li><li>If <math>m\angle HEP = (4x + 17)^\circ</math> and <math>m\angle O = (6x - 29)^\circ</math> then <math>m\angle H = \underline{\hspace{2cm}}</math> and <math>m\angle O = \underline{\hspace{2cm}}</math></li><li>If the perimeter of is equal to 480mm and <math>HO=130\text{mm}</math>, <math>HE=\underline{\hspace{2cm}}</math></li></ol> <p>Answer Key:</p> <ol style="list-style-type: none"><li><math>180^\circ-28^\circ=152^\circ</math> Consecutive angles of a parallelogram are supplementary.<br/><math>m\angle E =152^\circ</math> Opposite angles of a parallelogram are congruent.</li><li><math>180^\circ-53^\circ=127^\circ</math> Consecutive angles of a parallelogram are supplementary.</li><li>24 Opposite sides of a parallelogram are congruent.</li><li><math>4x+17=6x-29</math><br/><math>17+29=6x-4x</math><br/><math>46/2=2x/2</math><br/><math>23=x</math><br/><math>m\angle HEP = (4x + 17)^\circ</math><br/><math>= 4(23) +17</math><br/><math>m\angle HEP =109^\circ</math><br/><math>m\angle HEP =m\angle O = 109^\circ</math> Opposite angles of a parallelogram are congruent<br/><math>180^\circ- m\angle HEP = 71^\circ</math><br/><math>180^\circ- 109^\circ=71^\circ</math> Consecutive angles of a parallelogram are supplementary.</li><li><math>P=2L+2W</math><br/><math>480=2(130)+2(W)</math> Opposite sides of a parallelogram are congruent<br/><math>480=260+2w</math><br/><math>480-260=2W</math><br/><math>220/2=2w/2</math><br/><math>110=w</math></li></ol> |

|                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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.<br>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 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| H. 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.<br>PROPERTIES OF PARALLELOGRAM: <ul style="list-style-type: none"><li>• Opposite side of a parallelogram are parallel (definition of parallelogram).</li><li>• Opposite angles of a parallelogram are congruent.</li><li>• Opposite side of a parallelogram are congruent.</li><li>• The diagonal of a parallelogram bisect each other.</li><li>• Each diagonal divides a parallelogram into to congruent triangles.</li><li>• Diagonals bisect each other.</li></ul>                                                                                                                                                                                                                                               |
| I. Evaluating Learning                                                   | <p>The teacher lets the students answer individually the formative assessment. Complete the table each parallelogram FAITH and justify your answer.</p> <div><div><div>1. <math>\overline{AF} \parallel</math> =</div><div>2. <math>\triangle AHT</math> =</div><div>3. <math>\angle HTF</math> =</div><div>4. <math>HI</math> =</div><div>5. <math>m\angle F + m\angle G</math> =</div></div><div></div></div> <p>Answer Key:</p> <div><div>1.HT</div><div>2.<math>\triangle AHT = \triangle TFA</math></div><div>3.<math>\angle FAH</math></div><div>4.FI</div><div>5. <math>m\angle F + m\angle T = m\angle H + m\angle A</math></div></div> <p>Opposite side of a parallelogram are congruent<br/>Each diagonal divides a parallelogram into to congruent triangles<br/>Opposite angles of a parallelogram are congruent<br/>Diagonals bisect each other.</p> |
| J. Additional activities or remediation                                  | Study the properties of Parallelogram                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 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                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

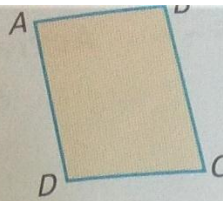
DAILY LESSON LOG OF M9-GE-IIIb-1(Day 8)

|                                                                                                         |  |
|---------------------------------------------------------------------------------------------------------|--|
| 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 |  |

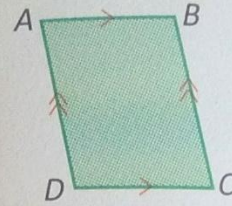
Prepared by:

MA. CRISTINA C. LAMPARAS  
BANILAD NHS

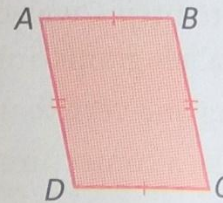
**EXAMPLE 1**  $ABCD$  is a parallelogram.



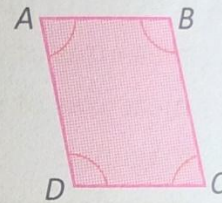
1. The opposite sides are parallel.  
 $\overline{AB} \parallel \overline{DC}$  and  $\overline{AD} \parallel \overline{BC}$



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



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



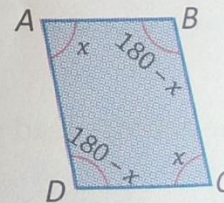
4. The consecutive angles are supplementary.

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

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

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

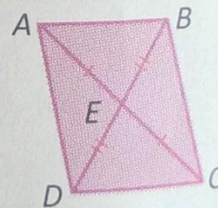
$$m\angle B + m\angle C = 180^\circ$$



5. The diagonals bisect each other.

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

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



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

For diagonal  $\overline{AC}$ ,  
 $\triangle ABC \cong \triangle CDA$

For diagonal  $\overline{BD}$ ,  
 $\triangle ABD \cong \triangle CDB$

