**DAILY LESSON LOG OF M9GE-IVb-c-1 (Day Six)**

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| **School** | | **Grade Level** | Grade 9 |
| **Teacher** | | **Learning Area** | Mathematics |
| **Teaching Date and Time** | | **Quarter** | Fourth Quarter |

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| **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 the basic concepts of trigonometry. |
| **B. Performance Standards** | The learner is able to apply the concepts of trigonometric ratios to formulate and solve real-life problems with precision and accuracy. |
| **C. Learning Competencies/ Objectives** | Learning Competency: Finds the trigonometric ratios of special angles.<br>**(MG 9GE-IVb-c-1)**<br><br>Learning Objectives:<br>1. Determine the values of the six trigonometric ratios of special angles<br>2. Evaluate equations involving trigonometric ratios of special angles<br>3. Show the equality of the equation involving trigonometric ratios of special angles<br>4. Display cooperation in the development of the lesson |
| **II. CONTENT** | Evaluating Equations Involving Trigonometric Ratios of Special Angles |
| **III. LEARNING RESOURCES** | teacher's guide, learner's module, |
| **A. References** | |
| **1. Teacher's Guide** | Pages 284-287 |
| **2. Learner's Materials** | Pages 447-456 |
| **3. Textbook pages** | |
| **4. Additional Materials from Learning Resource (LR) portal** | NA |
| **B. Other Learning Resources** | https://www.onlinemathlearning.com/trigonometry-special-angles.html |
| **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** | For lesson review, the teacher gives the following activity to the students. The activity measures the degree of familiarity of the students of the values of trigonometric ratios of special right angles.<br><br>**Match Column A with column B.**<br>**A**<br>1. cot 30°<br>2. sin 45°<br>3. tan 30°<br>4. csc 60°<br>5. sec 45°<br>6. cot 45°<br>7. sin 60°<br>8. cos 30°<br>9. tan 45°<br>**B**<br>a. 1<br>b. $\frac{\sqrt{3}}{2}$<br>c. $\sqrt{2}$<br>d. 2<br>e. $\frac{\sqrt{2}}{2}$<br>f. $\sqrt{3}$<br>g. $\frac{2\sqrt{3}}{3}$<br>h. $\frac{\sqrt{3}}{3}$<br><br>**Answer Key:**<br>6. A<br>7. B<br>8. B<br>9. A<br>10. D<br>F<br>E<br>H<br>G<br>C |

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| | 10. csc 30° |
| **1. Establishing a purpose for the lesson** | The teacher lets the students realize the significance of familiarizing the values of the six trigonometric ratios of special angles in order to evaluate equations related to trigonometric functions even without the use of a calculator. |
| **2. Presenting examples/ instances of the new lesson** | The teacher asks students to gather in groups and they answer **Activity 5: You Complete Me!** Of LM p. 454. **(items 1-10 only.)**<br><br>*Answer Key:*<br>1. sin 60° 6. $\frac{7}{4}$<br>2. 0 7. tan 45° or 1<br>3. ½ 8. sec 45°<br>4. tan 30° 9. cot 30°<br>5. 1 10. $\frac{\sqrt{2}}{4}$ |
| **3. Discussing new concepts and practicing new skills #1** | For lesson development, the teacher calls students to explain how they got the right answers. In addition, the teacher asks these questions.<br>1. What mathematical concepts did you recall and use to find the exact values?<br>2. Do you think these concepts are important?<br><br>Answer:<br>1. Use the concepts on the trigonometric ratios of special right angles.<br>2. Yes |
| **4. Discussing new concepts and practicing new skills #2** | The teacher discusses further the lesson to the students. |
| **5. Developing mastery (leads to formative assessment 3)** | The teacher gives the activity to be done in pairs.<br><br>Evaluate the following: **(11-15 of Activity 5: You Complete Me!)**<br>1. (sin 60°)(cos 30°)- (sin 30°)(cos 60°)= _____<br>2. (sin 30°)(cot 30°)(_____) = 1<br>3. 6 cos 45° + 3 sec 45° = _____<br>4. 3 ( ___ ) + 2 cos 60° - 2 tan 45° = 3/2<br>5. 2 $(\cos 30°)^2$ + 3 $(\sin 30°)^2$= _____<br><br>Answer Key:<br>1. $\frac{1}{2}$ 4. sin 30°or $\frac{1}{2}$<br>2. csc 60° 5. $\frac{9}{4}$<br>3. $6\sqrt{2}$ |
| **6. Finding practical applications of concepts and skills in daily living** | |
| **7. Making generalizations and abstractions about the lesson** | To summarize the lesson , the teacher asks the following questions:<br>1. How do we evaluate equations that deal with trigonometric ratios?<br><br>Expected Answer:<br>Substitute the values of the trigonometric ratio and perform the indicated operation. |
| **8. Evaluating Learning** | Show the equality of every equation.<br><br>a) 2 sin 30˚ + 3 cos 60˚ – 3 tan 45˚ = -1/2<br>b) 3$(\cos 30˚)^2$ + 2 $(\sin 30˚)^2$ = 11/9<br><br>Answer Key: |

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| | • $= 2\left(\frac{1}{2}\right)+3\left(\frac{1}{2}\right)-3(1)$<br>$= 1+\frac{3}{2}-3$<br>$= -\frac{1}{2}$<br>• $= 3\left(\frac{\sqrt{3}}{2}\right)^2+2\left(\frac{1}{2}\right)^2$<br>$= 3\left(\frac{3}{4}\right)+2\left(\frac{1}{4}\right)$<br>$= \frac{9}{4}+\frac{2}{4}$<br>$= \frac{11}{4}$ |
| **9. Additional activities or remediation** | Create and solve an equation that involves evaluating trigonometric ratios of special angles. |
| **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 | |

Prepared by:
**JENNIFER A. EBARLE**
Teacher I- Casili Night High School