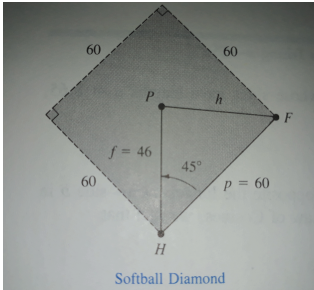
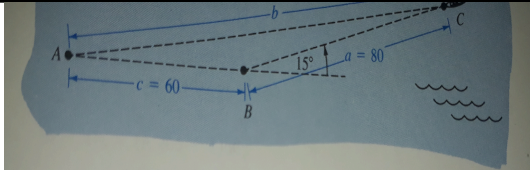
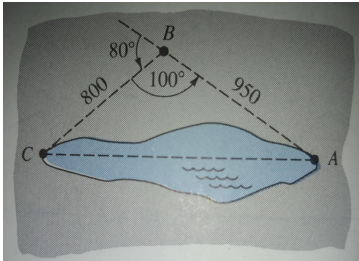


DAILY LESSON LOG OF M9GE-IVh-1 (Day 7)

School		Grade Level	Grade 9
Teacher		Learning Area	Mathematics
Teaching Date and Time		Quarter	Fourth
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: Solves problems involving oblique triangles. (M9GE-IVh-j-1) Learning Objectives: 1. Determine problems involving oblique triangles. 2. Solves problems using the Law of Cosine, given two sides and the included angle. 3. Shows perseverance in doing the day's tasks.		
II. CONTENT	Solving Oblique Triangles		
III. LEARNING RESOURCES	teacher's guide, learner's module,		
A. References			
1. Teacher's Guide			
2. Learner's Materials			
3. Textbook pages	Algebra and Trigonometry by Larson/Hostetler, pages 518-524		
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	Review previous lesson by letting the students find the missing parts of $\triangle ABC$ on the right. Given: two sides and the included angle. $\angle C = 80^\circ$ $a = 8$ $b = 12$		

	Answer key: $C = 13.22$ $\angle A = 36.61^\circ$ $\angle B = 63.39^\circ$
B. Establishing a purpose for the lesson	The teacher lets the students realize that the Law of Cosine is an important tool needed to solve problems involving oblique triangles.
C. Presenting examples/ instances of the new lesson	The teacher, in groups of four will let the students do the Activity. Solve. The pitcher's mound on a softball field is 46 feet from home plate, and the distance between the bases is 60 feet, as shown in the figure. How far is the pitcher's mound from first base? (Note that the pitcher's mound is not halfway between home plate and second base.)  Answer Key: Solution In $\triangle HPF$, we have $\angle H = 45^\circ$ (line HP bisects the right angle at H), $f = 46$, and p Using the Law of Cosines for this SAS case, we have $ \begin{aligned} h^2 &= f^2 + p^2 - 2fp \cos H \\ &= 46^2 + 60^2 - 2(46)(60) \cos 45^\circ \\ &= \sqrt{1812.8} = 42.58 \text{ feet} \end{aligned} $
D. Discussing new concepts and practicing new skills #1	The teacher discusses with the students the process of arriving at the answer of the activity.
E. Discussing new concepts and practicing new skills #2	
F. Developing mastery (leads to formative assessment 3)	Working in pairs, the teacher lets the students answer the problem using the Law of Cosine. Solve. A ship travels 60 miles due east, then adjusts its course 15° northward, as shown in the figure. After travelling 80 miles in that direction, how far is the ship from its point of departure?

	 Answer Key: Solution We have $c = 60$, $B = 180^\circ - 15^\circ = 165^\circ$, and $a = 80$. Consequently, by the Law of Cosines, we find that $b^2 = a^2 + c^2 - 2ac \cos B$ $= 80^2 + 60^2 - 2(80)(60) \cos 165^\circ$ $= 19,273$ Therefore, the distance b $b = \sqrt{19,273} = 138.8 \text{ miles}$
G. Finding practical applications of concepts and skills in daily living	
H. Making generalizations and abstractions about the lesson	The teacher summarizes the mathematical skills or principle used in solving problems involving oblique triangles using the Law of Cosine. The Law of Sine can be used to solve a triangle, given the measures of two sides and the included angle.
I. Evaluating Learning	The teacher lets the students answer individually the formative assessment. Solve. To approximate the length of a marsh, a surveyor walks 950 feet from point A to B, then turns 80° and walks 800 feet to point C (see figure). Approximate the length AC of the marsh.  Answer Key: Solution $AC = \sqrt{800^2 + 950^2 - 2(800)(950)\cos 100^\circ} = \sqrt{1,806,445.23} = 1344 \text{ ft}$
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

	<i>instructional supervisors can provide for you so when you meet them, you can ask them relevant questions.</i>
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:

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MCCNHS