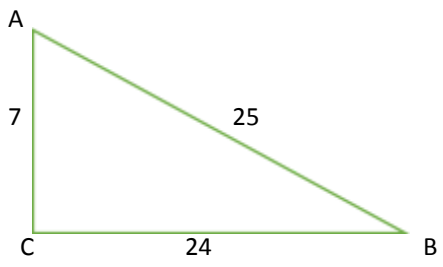
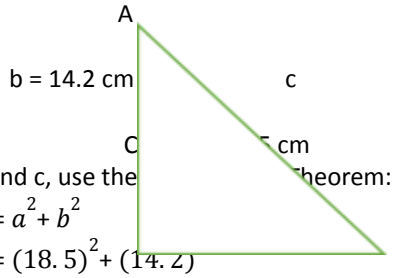
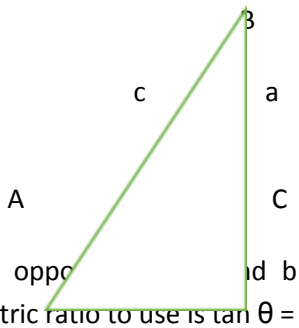
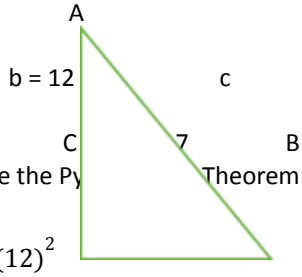
DAILY LESSON LOG OF M9GE-IVa-1 (Day Four)

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 key concepts of polynomial functions.		
B. Performance Standards	The learner is able to conduct systematically a mathematical investigation involving polynomial functions in different fields.		
C. Learning Competencies/ Objectives	Learning Competency: Illustrates the six trigonometric ratios: sine, cosine, tangent, cosecant, secant, and cotangent. M9GE-IV-a-1 Learning Objectives: 1. Solve for the unknown quantities of a right triangle given the measure of one leg and the measure of one acute angle. 2. Solve for the unknown quantities of a right triangle given the length of two legs. 3. Display accuracy in solving for the unknown quantities of a right triangle.		
II. CONTENT	Illustrating the six trigonometric ratios: sine, cosine, tangent, cosecant, secant, and cotangent.		
III. LEARNING RESOURCES			
A. References			
1. Teacher's Guide			
2. Learner's Materials	Pages 430-446		
3. Textbook pages			
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	The teacher lets the students, in pairs, give the trigonometric ratio being asked.  		

	sin A = $\frac{24}{25}$ sin B = $\frac{7}{25}$ cos A = $\frac{7}{25}$ csc B = $\frac{25}{7}$ tan B = $\frac{7}{24}$ sec A = $\frac{25}{7}$
B. Establishing a purpose for the lesson	The teacher lets the students realize that recognizing what ratio to use is helpful in solving for the missing parts of a right triangle. The teacher emphasizes that solving a right triangle means finding the measure of the remaining parts.
C. Presenting examples/ instances of the new lesson	The teacher lets the students, in groups of three, do the following activity. Figure of right triangle (p 438 A of LM) Triangle ACB is right angled at C. If $\angle A = 63^0$ and a = 11cm, find $\angle B,\ b,\ and\ c$.
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. Solution: To find $\angle B$, take note that $\angle B$ and $\angle A$ are complementary angles. Then, $\angle B + \angle A = 90^0$ $\angle B + 63^0 = 90^0$ $\angle B = 90^0 - 63^0$ $\angle B = 27^0$ To find b, since b is the adjacent side and a is the opposite side of $\angle A$, then use TOA. tan θ = $\frac{opposite}{adjacent}$ tan A = $\frac{a}{b}$ tan 63^0 = $\frac{11}{b}$ b tan 63^0 = 11 b 1.9626 = 11 b = $\frac{11}{1.9626}$ b = 5.60 cm To find c, since c is the hypotenuse and a is the opposite side of $\angle A$, then use SOH. sin θ = $\frac{opposite}{hypotenuse}$ sin A = $\frac{b}{c}$ sin 63^0 = $\frac{11}{c}$ c sin 63^0 = 11 c (0.8910) = 11 c = $\frac{11}{0.8910}$

	c = 12.35 cm
E. Discussing new concepts and practicing new skills #2	The teacher lets the students, in pairs, answer the next activity. Given right ΔACB with right angle at C. If a = 18.5cm and b = 14.2cm, find c, ∠A, and ∠B.  To find c, use the heorem: $c^2 = a^2 + b^2$ $c^2 = (18.5)^2 + (14.2)$ $c^2 = 342.25 + 201.64$ $c^2 = 543.89$ $c = \sqrt{543.89}$ $c = 23.32\ cm$ To find $\angle A$, since a and b are opposite and adjacent side of ∠A respectively, then use TOA. tan θ = $\frac{opposite}{adjacent}$ tan A = $\frac{a}{b}$ tan A = $\frac{18.5}{14.2}$ tan A = 1.3028 Using the scientific calculator, we have ∠A = 52^0. Since ∠A and ∠B are complementary, the measure of ∠B is 90^0 - 52^0 = 38^0.
F. Developing mastery (leads to formative assessment 3)	The teacher lets the students, in pairs, answer the following activity. Using the figure below, write expression that gives the required unknown value of b given that ∠A = 76^0 and a = 13.  Solution: Since a is oppo d b is adjacent to ∠A, then the best trigonometric ratio to use is tan θ = $\frac{opposite}{adjacent}$. tan θ = $\frac{opposite}{adjacent}$ tan ∠A = $\frac{a}{b}$

	$\tan 76^0 = \frac{13}{b}$ $b \tan 76^0 = 13$ $b = \frac{13}{\tan 76^0}$ b = 3.24
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 principles used to solve for the missing side of a right triangle by asking the question: What mathematical principles do you need to remember in solving for the missing side of a right triangle? Answers shall be drawn from the students. Answer: It is important to always remember the six trigonometric ratios namely: sine, cosine, tangent, cosecant, secant, and cotangent.
I. Evaluating Learning	The teacher lets the students individually answer the formative assessment. I. Sketch a figure and solve each right triangle ABC with right angle at C, given that a = 7 and b = 12. Solution:  To find c, use the Py Theorem: $c^2 = a^2 + b^2$ $c^2 = (7)^2 + (12)^2$ $c^2 = 49 + 144$ $\sqrt{c^2} = \sqrt{193}$ $c = 13.89$ To find $\angle A$, since a and b are opposite and adjacent side of ∠A respectively, then use TOA. $\tan \theta = \frac{opposite}{adjacent}$ $\tan A = \frac{a}{b}$ $\tan A = \frac{7}{12}$ tan A = 0.58 Using the scientific calculator, we have ∠A = 30.11^0. Since ∠A and ∠B are complementary, the measure of ∠B is $90^0 - 30.11^0 = 59.89^0$.
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 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	

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EPS in MATH