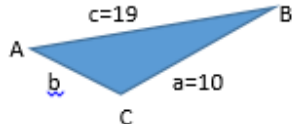


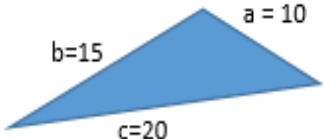
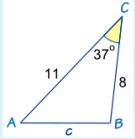
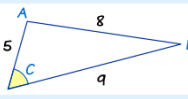
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|  | <b>GRADES 1 to 12</b>   | <b>School</b>                  |  | <b>Grade Level</b>   | 9             |
|                                                                                   | <b>DAILY LESSON LOG</b> | <b>Teacher</b>                 |  | <b>Learning Area</b> | Mathematics 9 |
|                                                                                   |                         | <b>Teaching Dates and Time</b> |  | <b>Quarter</b>       | FOURTH        |

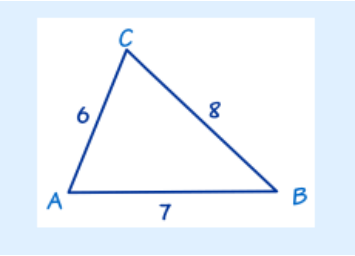
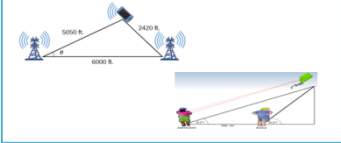
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|                                                                           | <b>MONDAY</b>                                                                                                                                                                     | <b>TUESDAY</b> | <b>WEDNESDAY</b> | <b>THURSDAY</b> | <b>FRIDAY</b> |
|                                                                           |                                                                                                                                                                                   |                |                  |                 |               |
| <b>I. OBJECTIVES</b>                                                      | a. Illustrate the law of cosine.<br>b. Solve problems involving oblique triangles.<br>c. Show mastery in applying the laws of cosine in solving problems about oblique triangles. |                |                  |                 |               |
| <b>A. Content Standards</b>                                               | The learner demonstrates understanding of the basic concepts of trigonometry.                                                                                                     |                |                  |                 |               |
| <b>B. Performance Standards</b>                                           | The learner is able to apply the concepts of trigonometric ratios to formulate and solve real-life problems with precision and accuracy.                                          |                |                  |                 |               |
| <b>C. Learning Competencies/ Objectives</b><br>Write the LC code for each | The learner solves problems involving oblique triangles.<br>( M9GE-IVh-j-1)                                                                                                       |                |                  |                 |               |
| <b>a. CONTENT</b>                                                         | Oblique Triangles (Law of Cosine)                                                                                                                                                 |                |                  |                 |               |
| <b>b. LEARNING RESOURCES</b>                                              |                                                                                                                                                                                   |                |                  |                 |               |

|                                                                   |                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
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| <b>A. References</b>                                              |                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
| <b>1. Teacher's Guide pages</b>                                   |                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
| <b>2. Learner's Materials pages</b>                               | 9 Learning Materials pp. 477 - 496                                                                                                                                                                                                                                                                                                                            |  |  |  |  |
| <b>3. Textbook pages</b>                                          |                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
| <b>4. Additional Materials from Learning Resource (LR) portal</b> | <a href="https://www.mathsisfun.com/algebra/trig-cosine-law.html">https://www.mathsisfun.com/algebra/trig-cosine-law.html</a>                                                                                                                                                                                                                                 |  |  |  |  |
| <b>A. Other Learning Resources</b>                                | oblique triangles (pictures), LCD, activity sheets                                                                                                                                                                                                                                                                                                            |  |  |  |  |
| <b>c. PROCEDURES</b>                                              |                                                                                                                                                                                                                                                                                                                                                               |  |  |  |  |
| <b>A. Reviewing previous lesson or presenting the new lesson</b>  | <p>I. Look around the classroom.</p> <ul style="list-style-type: none"> <li>• Can you see things in the shape of oblique triangles? List down at least five things you see around that may not be considered as right triangles. These are oblique triangles.</li> <li>• Take a second look at the things you have listed and find out what common</li> </ul> |  |  |  |  |

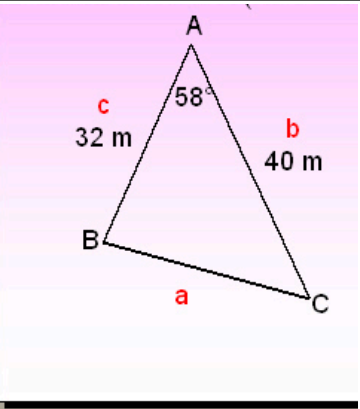
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|                                                 | <p>characteristic these triangles have.</p> <ul style="list-style-type: none"><li>• If you are asked to classify the things on your list into two, how would you do it? What is your basis for classifying them as such?</li><li>• Can you now define an oblique triangle? Give your definition of an oblique triangle based on what you have observed.</li></ul> <div><div><p>Triangle 1</p></div><div><p>Triangle 2</p></div><div><p>Triangle 3</p></div><div><p>Triangle 4</p></div><div><p>Triangle 5</p></div><div><p>Triangle 6</p></div></div> |  |  |  |  |
| <b>B. Establishing a purpose for the lesson</b> | <p>at the triangles below</p> <ul style="list-style-type: none"><li><input type="checkbox"/> What do you notice about each of the given triangles?</li><li><input type="checkbox"/> If you are asked to group the triangles in into two sets, how will you group them? Name them Set A and Set B.</li><li><input type="checkbox"/> What is your basis for grouping them that way?</li><li><input type="checkbox"/> Examine closely the triangles in Set A. Can you solve the missing parts of the</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  |  |  |

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|                                                    | triangles? How about those in Set B? If you can solve the missing parts of these two sets of triangles using the previous concepts you have learned, show us how.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  |  |
| C. Presenting examples/instances of the new lesson | <p>cosine states that the square of any side of a triangle is equal to the sum of the squares of the other two sides minus twice the product of these sides and the cosine of the angle between them.</p> $a^2 + b^2 - 2ab \cos C$ <p>y applicable if:</p> <ul style="list-style-type: none"><li>□ the three sides are known; and</li><li>□ the two sides and its included angle are known.</li></ul> <p>le 1. Solve for the missing parts of <math>\triangle ABC</math> below.</p> <p>n: two sides and an angle opposite of these sides</p> <p><math>a = 10</math> ; <math>c = 19</math> ;<br/><math>\angle C = 120^\circ</math></p>  |  |  |  |  |

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|                                                                       | <p>Example 2:</p> <p>Given: three sides</p> <p><math>a = 10</math> ; <math>b = 15</math> ; <math>c = 20</math></p> <p>Find the measurement of</p>  <p><math>\angle A</math>, <math>\angle B</math>, and <math>\angle C</math>.</p>                |  |  |  |  |
| <p><b>D. Discussing new concepts and practicing new skills #1</b></p> | <p>a. What are your thoughts about the applications of law of cosines?</p> <p>b. Are the given illustrations helpful? How it helps to solve the problem easier?</p> <p>c. Do you have other way/s to solve these problems? If so, share it to the class.</p>                                                                       |  |  |  |  |
| <p><b>E. Discussing new concepts and practicing new skills #2</b></p> | <p>How long is side "c" ... ?</p>  <p>We know angle <math>C = 37^\circ</math>, <math>a = 8</math> and <math>b = 11</math></p> <p>What is Angle "C" ...?</p>  |  |  |  |  |

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| <b>F. Developing mastery</b><br><b>(Leads to Formative Assessment 3)</b>        | <p>Find the measurement of <math>\angle A</math>, <math>\angle B</math>, and <math>\angle C</math>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  |  |
| <b>G. Finding practical applications of concepts and skills in daily living</b> | <p>Group Activity</p> <ul style="list-style-type: none"><li>• Each group were given an oblique triangle.</li><li>• Create a situation or a problem where the given oblique triangle can be applied and write it on the manila paper given to each group.</li><li>• The first group who can post their work on the board will become the first group to present and they will receive an additional points.</li><li>• After three minutes each group will demonstrate or act the situation or problem.</li><li>• Show the solution to solve the formulated problem.</li></ul>  |  |  |  |  |
| <b>H. Making generalizations and abstractions about the lesson</b>              | <p>The law of cosines states that the square of the length of one side is equal to the sum of the squares of the other two sides minus the product of twice the two sides and the cosine of the angle between them.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |
| <b>I. Evaluating learning</b>                                                   | <p>s handheld computer can send and receive e – mails if it is within 40miles of a transmission tower. On a trip Maine passed the transmission tower on</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |  |  |  |

|                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |  |  |  |
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|                                                                | <p>Highway 7 for 32 miles, and turns <math>97^\circ</math> onto Coastal road and drive another 19 miles.</p> <p>Is Maine close enough to the transmission tower to be able to send and receive e – mails? Explain your reasoning.</p> <p>She is within range of the tower, how much farther can she drive on Coastal road before she is out of range? If she is out of range and drive back toward Highway 7, how far will she travel before she is back in range?</p> |  |  |  |  |
| <b>J. Additional activities for application or remediation</b> | <p>Solve the following problems.</p> <p>A triangular lot sits at the corner of two streets that intersect at an angle of 58 degrees. One street side of the lot is 32 m and the other is 40 m. How long is the back lot (the third side) to the nearest meter?</p>                                                                                                                                                                                                     |  |  |  |  |

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| V. REMARKS |                                                                                   |  |  |  |  |

|                                                                      |  |  |  |  |  |
|----------------------------------------------------------------------|--|--|--|--|--|
| REFLECTION                                                           |  |  |  |  |  |
| A. No. of learners who earned 80% in the evaluation                  |  |  |  |  |  |
| B. No. of learners who require additional activities for remediation |  |  |  |  |  |
| C. Did the remedial lessons work? No. of learners who have           |  |  |  |  |  |



|                                                                                                          |  |  |  |  |  |
|----------------------------------------------------------------------------------------------------------|--|--|--|--|--|
| caught up in 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 used/discover which I wish to share with other teachers? |  |  |  |  |  |
|                                                                                                          |  |  |  |  |  |

