**LEARNING ACTIVITY SHEET IN MATH 10**

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| Name of Learner: | Adrian Jake V. Dador | Score: |  |
| Grade and Section: | Grade 9 - TAE | Week & Date: | **Week 3 – June 3, 2021** |

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| **Title of the Topic:** | **Trigonometry** | | |
| **Most Essential Learning Competency:** | | **Code:** | **M9GE-IVe-1** |
| **I. Concept Notes:** *(Will be in a separate file.)* | | | |
| **II. Learning Activities:** | | | |
| Learning Activity 1:  **Directions: Solve the following problems. Provide illustrations for each given situation.**   1. A flag pole casts a shadow on the ground that is 27 ft long. If the angle of elevation from the end of the shadow to the top of the flag pole is 36 degrees, how high is the flag pole?     tan(36) = 0.73  b = 27 x 0.73  **b = 19.71ft**   1. From the top of a hill 115m high, the angle of depression of a rock is 22 degrees. How far is the rock from the base of the hill?     tan(68) = -2.04  b = 2.04 x 115  **b = 234.6 m**   1. Luffy sees a dove on top of an electric post at an angle of 40 degrees. If he is 12 ft away from the base of the post, what is the height of the post?     tan(40) = -1.117  x = 12 x 1.117  **x = 13.4 ft**   1. A man on a cliff observes a sailing boat that is 100m away from the base of the cliff on a sea level. If an angle of depression from the man’s point of view to the boat is 53 degrees, approximately how high is the cliff above sea level?     tan(37) = 0.75  x = 100 ÷ 0.75  **x = 133.33 m**   1. Yve wated to measure the height of a school building using a clinometer. When she viewedthe top of the building from the clinometer, it read an angle of elevation of 60 degrees. If she is 10m away from the base of the building, what is the approximate height of the building?     tan(60) = 1.73  x = 10 x 1.73  **x = 17.3 m**   1. Brook is on top of a building 69m high. He saw Franky standing beside a lamp post that is 96m away from the base of the building. What is the angle of depression from Brook’s position to Franky’s place?     tan x⁰ = 69/96 = 0.72  tan⁻¹ = 35.75  **x = 35.75°**   1. Tony and Robin went to a Pyromusical event near the bay. They have decided to stay on opposite sides of the bay so that they will have a different view of the spectacle in the skies. Fireworks were set to explode in midair at a height of 250m above the sea level. If the angles of elevation from Tony and Robin to the fireworks display are 21 degrees and 32 degrees respectively, how far are they from each other?     tan(21) = 0.384  tan(32) = 0.625  a = 250 ÷ 0.384  a = 651.04  b = 250 ÷ 0.625  b = 400  x = a + b  **x = 1051.04 m**   1. From the top of a cliff, the angles of depression of the two houses situated on the same horizontal line as its foot are 33 degrees and 24 degrees, respectively. If the two houses are 65m apart, approxiately how high is the cliff?     90-33 = 57  90-24 = 66  tan (57) = 1.54  tan (66) = 2.25  1.54 = x/a  a = x/1.54  2.25 = x+65/a  a = x+65/2.25  x/1.54 = x+65/2.25  2.25x = 1.54x + 100  0.7x = 100  x = 142.86  a = 142.86/1.54  **a = 92.76 m**   1. The angle of elevation of a nylon rope whose ends are tied on the ground and on top of a water is 23 degrees and 45 minutes. If the water tank is 25m high, how long is the rope?     sin (23) = 0.39  x = 25 ÷ 0.39  **x = 64.1 m**   1. Sage is standing on the rooftop of a certain establishment. On top of a building is 30m away from her location, she saw Sova at an angle of elevation of 34 degrees. At the base of the same building, she saw Yoru standing next to the main door at an angle of depression of 28 degrees. What is the approximate height of the building where she saw the two gentlemen?     tan(34) = 0.675  tan(62) = 1.88  a = 30 x 0.675  a = 20.25  b = 30 ÷ 1.88  b = 15.96  x = a + b  **x = 36.21 m** | | | |
| **III. Reflection:** | | | |
| In this LAS, I learned about trigonometry. At first, I was having a hard time answering because I did not know about sin, cos, tan yet. After studying it, I found that it was not actually too hard as long as I had a scientific calculator to find the value of tan. I had fun answering the problems they challenged my brain. | | | |

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