SAUYO HIGH SCHOOL
MATHEMATICS DEPARTMENT
S.Y. 2019 – 2020
Lesson Plan for Mathematics 10

Module title: Geometry
Date: Oct 8, 2019

Grade Level: Grade 10
Designed by: Mr. Jonathan R. Bacolod, LPT

I. Learning Competencies/Objectives

A. Content Standard: The learner demonstrates understanding of key concepts of circles and coordinate geometry.

B. Performance Standard: The learner is able to formulate and find solutions to challenging situations involving circles and other related terms in different disciplines through appropriate and accurate representations.

C. Learning Competency: The learner applies the distance formula to prove some geometric properties. (M10GE-IIg-2)

At the end of a 50-minute period, 80% of the Grade 10 students should be able to do the following with at least 75% accuracy:

a. Describe the distance formula;
b. Prove some geometric properties using the distance formula; and,
c. Show interest and perseverance in solving problems.

II. Subject Matter

A. Topic: Distance Formula

B. Reference: Mathematics 10 Learner's Module pp. 229-237

C. Materials: Handouts showing the steps and the formula for the Distance Formula

III. Procedure

A. Daily routine

1. Cleaning and arranging of chairs
2. Greeting
3. Checking of assignment
4. Drill: Flashcards showing the operations on signed numbers
5. Review: Area of Sectors and Segments of a Circle

B. Lesson Proper

1. Direct instruction: The teacher describes the main concepts of the lesson.

The Distance Formula

If $A(x_1, y_1)$ and $B(x_2, y_2)$ are any two points on the coordinate plane, then

$$AB = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

2. Demonstration: The teacher shows how to solve the first item in the Practice Exercises.
3. Practice Exercises and Boardwork:
   Answer the following problems in your notebook.
   Practice Exercises

   A. Find PQ.

   1. $P(4,2), Q(8,2)$
   2. $P(3,5), Q(3,-2)$
   3. $P(0,0), Q(-4,3)$
   4. $P(-2,6), Q(-7,7)$

5. $P(5,2), Q(0,-6)$

B. Find the length of each side of $\triangle EXP$. Tell whether $\triangle EXP$ is isosceles, right, or neither.

1. $E(4,3), X(-1,1), P(5,0)$
2. $E(-3,-2), X(1,-1), P(0,2)$
3. $E(0,8), X(9,6), P(8,10)$

4. Generalization: Let the students answer the following questions.
   a. In your own words, what is the distance formula?
   b. How do we solve problems involving the distance formula?

C. Application: Problem Set

In a sheet of paper, answer the following problems.

Problem Set

A. Find PQ.

1. $P(-3,1), Q(3,9)$
2. $P(4,2), Q(9,14)$
3. $P(-8,0), Q(16,-24)$
4. $P(-3,4), Q(5,2)$
5. $P(4,5), Q(1,3)$

B. Find the length of each side of $\triangle EXP$. Tell whether $\triangle EXP$ is isosceles, right, or neither.

1. $E(1,8), X(6,-4), P(11,8)$
2. $E(3,3), X(5,8), P(7,3)$
3. $E(-1,1), X(-4,-3), P(3,-2)$

C. Find the perimeter and area of the triangles in Part B.

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