GENERAL MATHEMATICS

Name: _____ **Grade Level:** _____
Date: _____ **Score:** _____

LEARNING ACTIVITY SHEET
ILLUSTRATES AND SYMBOLIZES PROPOSITIONS

Background Information for Learners

In your everyday life, you are facing different information about people, things and events. You may wonder how the new normal can help students in learning the needed competencies. You can express your idea as "The new normal is good." This statement is called proposition. What is a proposition?

This activity sheet is a self-paced material where students can check and recheck their understanding and progress about the topic. It is an enjoyable material where 'learning is fun' can be experienced.

This Learning Activity Sheet is intended for Senior High School students particularly Grade 11 who are taking General Mathematics subject.

REASONING *(Oxford illustrated Dictionary)*
"the intellectual faculty by which conclusions are drawn from premises.

LOGIC
"the study of reasoning, seeks the rules and principles of how people should reason correctly and rationally.

"It is a normative science as it provides prescriptions for rational thinking."

"To discover truths is the task of all sciences; it falls to logic to discern the laws of truth…
(Gottlob Frege,1956)

Dear students, if you are confined to dicern from what is right or wrong, your brain starts to function and propmt you with your reasoning ability. That is Logic. When you start to express your complete idea whether it is true or false, then that is proposition.

Propositions are statements in declarative form which express a single and complete idea, and bears either truth or falsity but **not both**. If a proposition is true, then its truth value is true, which is denoted by T; otherwise, its truth value is false, which is denoted by F. Like any other declarative sentence, it has a subject and a predicate. It is usually denoted by a small letter. *"This topic is interesting."*, is a proposition.

p: *This topic is interesting.*

Learning Competency 1: The learner illustrates and symbolizes propositions .**M11GM-IIg-1-2**

Priming Activity

Directions: Determine whether each of the following statements is a proposition or not. If it is a proposition, give its truth value.

1. All birds can fly.
2. There is life on Mars.
3. Look out!
4. X is an even number.
5. What is the domain of the function?

Big Idea!

A proposition is a declarative sentence that expresses a complete idea and bears either truth or falsity.

Key: Numbers 1 & 2 are propositions since it has a complete thought and it is a declarative sentence, although the truth value is false. Number 3 is not a proposition since the sentence is imperative. Number 4 depends on the value of x, it is neither true nor false,hence, it is not a proposition. Number 5 is a question, hence, it is not a proposition.

Activity 1: "I will try It!"

Tell whether the statement is a **Proposition** or **Not.**

1. All cows are black. _____
2. x + 2 = 2x . _____
3. x+2 = 2x, when x = -2 _____
4. Look out! _____
5. Wash your hands. _____

Activity 2: "I can do It!"

Tell whether the statement is a **Proposition** or **Not.** Determine the truth value.

1. COVID 19 is a Virus. _____ _____
2. 1 is an even number. _____ _____
3. x+2 = 2x, when x = -2 _____ _____
4. This statement is true. _____ _____
5. Check your answer. _____ _____

Activity 3: "I can tell why"

Tell whether the statement is a **Proposition** or **Not.** If not, why?

1. Roses are red and violets are blue.

   _____

2. What is a proposition?

   _____

3. Wear your mask!

   _____

4. Learning is fun and challenging in the new normal.

   _____

5. m is a prime number.

   _____

Congratulations! You've made it this far. You may now proceed…

Reflection

Evaluate your understanding using declarative sentence to express your opinion regarding the topic on propositions.

Answer:

_____

_____

References

DIWA Senior High School Series, p. 204

General Mathematics, p 240

Answer Key

Activity1

1. Proposition
2. Not
3. Proposition
4. Not
5. Not

Activity2

1. Proposition. True
2. Proposition. False
3. Proposition. False
4. Not a proposition since it's neither true not false. It is a paradox.
5. Not a proposition. It is imperative.

Activity 3

1. Proposition
2. Not, because it is not a declarative statement.
3. Not, because it is not a declarative statement.
4. Proposition
5. Not, because it can neither be true nor false.