

7

# Learning Activity Sheet for Mathematics

Quarter 2

Lesson

7

**Worksheet for Mathematics Grade 7**  
**Quarter 2: Lesson 7 (Week 7)**  
**SY 2024-2025**

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**LEARNING ACTIVITY SHEET**

<b>Learning Area:</b>	Mathematics	<b>Quarter:</b>	2
<b>Lesson No.:</b>	7	<b>Date:</b>	
<b>Lesson Title/ Topic:</b>	Sets, Types of Sets, and Cardinality of Sets		
<b>Name:</b>		<b>Grade &amp; Section:</b>	

- I. Activity No. 1:** SET your Head. (Knowledge) (15 minutes)
- II. Objective:** Recall basic properties, types, and cardinalities of sets.
- III. Materials Needed:** Paper and pen
- IV. Instructions:**

A. Match the descriptions in column **A** with word/s being described in column **B**. Write the letter of your answer in the space provided.

	<b>COLUMN A</b>	<b>COLUMN B</b>
___	1. The objects contained in the set	a. capital letters
___	2. A well-defined group or collection of objects that share common characteristics	b. set
___	3. It is represented by three dots, which are used to indicate that a set has many or infinite elements	c. ellipsis
___	4. Grouping symbols used to group the elements of a set	d. braces
___	5. A symbol used to represent a set	e. elements
		f. subsets

B. Identify whether each of the following sets is **well-defined** or **NOT**. Put a checkmark (✓) if it is well-defined and a cross mark (×) if it is not. Write your answer in the space provided before each number.

- \_\_\_ 1. The set of local government officials
- \_\_\_ 2. The set of odd numbers between 1 and 10
- \_\_\_ 3. The set of Philippine presidents
- \_\_\_ 4. The set of months containing 31 days
- \_\_\_ 5. The set of cities in Metro Manila
- \_\_\_ 6. The set of prime numbers below 100
- \_\_\_ 7. The set of letters in the word "MATATAG"
- \_\_\_ 8. The set of planets with a moon
- \_\_\_ 9. The set of entertaining magicians
- \_\_\_ 10. The set of shops with aromatic coffee

C. Identify each of the following sets as *Finite*, *Infinite*, *Empty*, or *Universal*. Write your answer in the space provided before each number.

- \_\_\_\_\_ 1. The set of whole numbers less than 20.
- \_\_\_\_\_ 2.  $A = \{0, 1, 1, 2, 3, 5, 8, \dots\}$
- \_\_\_\_\_ 3. The set of letters in the English alphabet.
- \_\_\_\_\_ 4.  $C = \{10, 20, 30, \dots, 100\}$
- \_\_\_\_\_ 5. The set of vowels in the word “rhythm”.
- \_\_\_\_\_ 6. The set of all barangays in the Philippines.
- \_\_\_\_\_ 7. The set of all Junior High Schools in the country.
- \_\_\_\_\_ 8. The set of mobile phone brands in the world.
- \_\_\_\_\_ 9.  $E = \{\text{Ni-ki, Sunghoon, Jungwon, Jake, Heeseung, Sunoo, Jay}\}$
- \_\_\_\_\_ 10. The set of vegetables mentioned in the Filipino song “*Bahay Kubo*”.

D. Find the cardinality of the given sets. Write your answer in the space provided before each number.

- \_\_\_\_\_ 1.  $A = \{\text{Jenny, Lisa, Jisoo, Rose, Trixy}\}$
- \_\_\_\_\_ 2. The set of the capitals of the Philippines.
- \_\_\_\_\_ 3. The set of letters of the word “curriculum”.
- \_\_\_\_\_ 4. Set D is the set of months in a year.
- \_\_\_\_\_ 5. Set E is the set of positive factors of 2.

**LEARNING ACTIVITY SHEET**

<b>Learning Area:</b>	Mathematics	<b>Quarter:</b>	2
<b>Lesson No.:</b>	7	<b>Date:</b>	
<b>Lesson Title/ Topic:</b>	Subsets and Operations on Sets		
<b>Name:</b>		<b>Grade &amp; Section:</b>	

**I. Activity No. 2:** SET your Hand. (Skill) (15 minutes)

**II. Objectives:**

1. Determine the subsets of a given set.
2. Find the union and intersection of sets.

**III. Materials Needed:** Paper and Pen

**IV. Instructions:**

A. True or False. Write “*true*” if the statement is correct. Otherwise, write “*false*”.

- \_\_\_\_\_ 1.  $\{1, 2, 3\} \subseteq \{1, 2, 3, 4, 5\}$
- \_\_\_\_\_ 2.  $\{2, 4, 6, 8, 10\} \subseteq \{2, 4, 6, 8, 10\}$
- \_\_\_\_\_ 3.  $\emptyset \subseteq \{a, b, c\}$
- \_\_\_\_\_ 4.  $\{0\} \subseteq \{1, 2, 3, 4, 5\}$
- \_\_\_\_\_ 5.  $\{3, 6, 9, 12, 15\} \subseteq \{3, 9, 15\}$
- \_\_\_\_\_ 6.  $\{g, m, a\} \subseteq \{a, g, m\}$
- \_\_\_\_\_ 7.  $\{e, d\} \subseteq \{e, d, r, i, a, n\}$
- \_\_\_\_\_ 8.  $\{ \} \subseteq \{0\}$
- \_\_\_\_\_ 9.  $\{35, 42, 49\} \subseteq \{7, 14, 21, \dots, 70\}$
- \_\_\_\_\_ 10.  $\{3, 23, 2\} \subseteq \{1, 2, 3, \dots\}$

B. Write all the subsets of set  $A = \{m, a, t, h\}$ .

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C. Given the following sets:

$$U = \{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$$

$$C = \{1, 5, 8\}$$

$$A = \{1, 3, 5, 7, 9\}$$

$$D = \{2, 6, 10\}$$

$$B = \{2, 4, 6, 8, 10\}$$

$$E = \{3, 5, 6, 8, 9\}$$

Evaluate:

1.  $A \cup B$  \_\_\_\_\_
2.  $A \cap C$  \_\_\_\_\_
3.  $C \cup E$  \_\_\_\_\_
4.  $D \cap E$  \_\_\_\_\_
5.  $(A \cap B) \cup (C \cap D)$  \_\_\_\_\_

## LEARNING ACTIVITY SHEET

<b>Learning Area:</b>	Mathematics	<b>Quarter:</b>	2
<b>Lesson No.:</b>	7	<b>Date:</b>	
<b>Lesson Title/ Topic:</b>	Venn Diagram		
<b>Name:</b>		<b>Grade &amp; Section:</b>	

- I. Activity No. 3:** SET your Heart. (Application) (15 minutes)
- II. Objective:** Visualize and use the Venn Diagram to illustrate and compare sets.
- III. Materials Needed:** Paper, pen, pencil, and round objects
- IV. Instructions:** Using the concept of Venn Diagram, solve the puzzle below.

**Sara Duterte-Carpio**, commonly known as **Inday Sara**, is a Filipina lawyer and politician who is the 15th and current Vice President of the Philippines. She is the third female vice president, the third vice president to come from Mindanao, and the youngest vice president in Philippine history. Duterte is also the Secretary of Education and the woman behind the MATATAG Curriculum of the Department of Education. (*Wikipedia*)

**Question: What is the middle name of Sara Duterte?**

To know her middle name, answer the following problem. Write the corresponding letter in the box. Also, draw a Venn diagram to represent the union and intersection of sets M (Math), S (Science), and E (English). Thirty-five students were asked about their most preferred subjects. The result of the survey is as follows:

19 – Math	7 – Math and Science
16 – Science	9 – Math and English
19 – English	8 – Science and English
5 – Math, Science, and English	

**Guide questions:**

- A** – How many students prefer Math only?
- E** – How many students prefer English only?
- I** – How many students prefer Science only?
- M** – How many students prefer Math and English only but not Science?
- N** – How many students prefer Math and Science only but not English?
- R** – How many students prefer Science and English only but not Math?
- Z** – How many students did not prefer Math, Science, and English?

<b>0</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>8</b>	<b>2</b>