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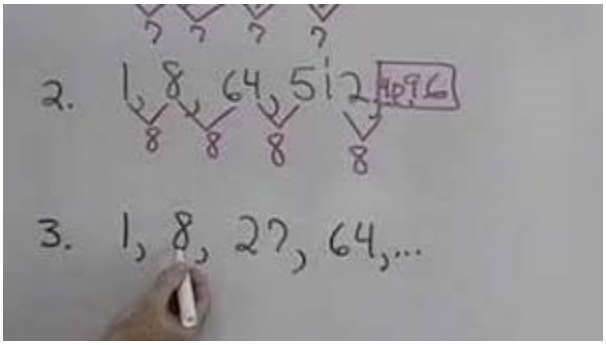
BASIC 7

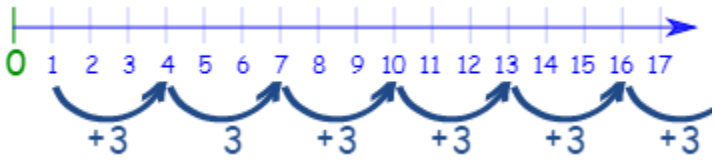
WEEKLY LESSON PLAN – WEEK 2

Strand:	Algebra	**Sub-Strand:**	Patterns and Relations		
Content Standard:	B7.2.1.1 Derive the rule for a set of points of a relation, draw a table of values to graph the relation in a number plane and make predictions about subsequent elements of the relation.				
Indicator (s)	B7.2.1.1.1 Extend a given relation presented with and without symbolic materials and explain how each element differs from the preceding one. B7.2.1.1.2 Describe the rule for a given relation using mathematical language such as one more, one less, one more than twice, etc			**Performance Indicator:** Learners can identify the rule of a given relation.	
Week Ending	14-04-2023				
Class	B.S.7	**Class Size:**		**Duration:**	
Subject	Mathematics				
Reference	Mathematics Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook.				
Teaching / Learning Resources	Charts, Pictures, Posters	**Core Competencies:**			

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
MONDAY **10-04-2023**	Explain the concept of relation in Mathematics.	1. Discuss with learners on how to compare patterns in a relation. 2. Assist Learners to compete tables of involving patterns of numbers. 3. Learners brainstorm to explain domains and co-domains. 4. Learners in small groups practice extending numbers of given relations.  Example:	Individual Learners practice completing tables involving patterns of numbers. **Exercise;** 1. Find the following number in the number patterns 7, 14, 21, 28, 35…. 2. Write the first five multiples of 4 by counting numbers in a pattern of 4.

1, 4, 7, 10, 13, 16, 19, 22, 25, ...

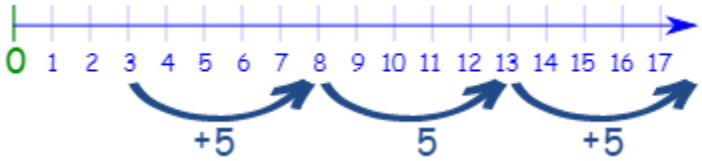
This sequence has a difference of 3 between each number.
The pattern is continued by **adding 3** to the last number each time, like this:



Example:

3, 8, 13, 18, 23, 28, 33, 38, ...

This sequence has a difference of 5 between each number.
The pattern is continued by **adding 5** to the last number each time, like this:



The value added each time is called the **"common difference"**

What is the common difference in this example?

19, 27, 35, 43, ...

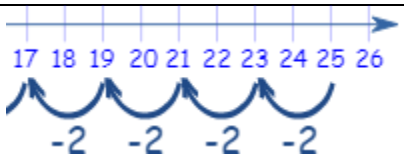
Answer: The common difference is **8**

The common difference could also be negative:

Example:

25, 23, 21, 19, 17, 15, ...

This common difference is **−2**
The pattern is continued by **subtracting 2** each time, like this:

			
TUESDAY **11-04-2023**	Review Learners knowledge on the previous lesson.	1. Assist Learners to describe rules of given relations using mathematical language such as one more, one less, one more than twice. 2. Learners brainstorm to find “square of numbers” and “double of numbers” in given relations. 3. Learners in small groups to discuss and answer questions on a table of patterns. **Double means that a number is multiplied by 2**. Squared means that a number is multiplied by itself. A double is a number or an amount that is twice as large as the given number or amount. So, if we multiply a number by 2 or if we add a number to itself, we say that the number is doubled. Squared =5^2 ==5 x 5 ==25 [multiply the number by itself] Doubled =2 x 5 ==10 [multiply the number by 2 The following Arrow Diagram shows a Relation from Set A to Set B. Find the Domain and Range? **Solution:** The domain is the first component of the ordered pairs in the Relation R whereas Range is the second component of the ordered pairs. Repetition is not allowed. Domain = { -2, 2, 4, 5, 6} Range = { 4, 16, 25, 36} The below figure shows a relation between Set x and Set y. Write the same in Roster Form, Set Builder Form, and find the domain and Range?	Through questions and answers, complete the lesson. **Exercise** 1. | ***x***	3	5	7	9
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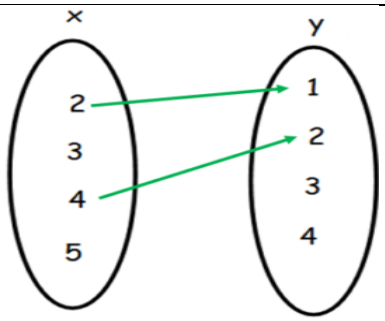
y	9	15	21	27	 Write the equation that represent the relationship of values in the table.



Solution:

In the Set Builder Form R = {(x, y): x is the square of y, x ∈ X, y ∈ Y}

In Roster Form R = {(2, 1)(4, 2)}

Domain = {2, 4}

Range = {1, 2}

9. What can you say about the ordered pairs (x, y) and (y, x)?

Solution:

Ordered Pairs (x, y) ≠ (y, x).

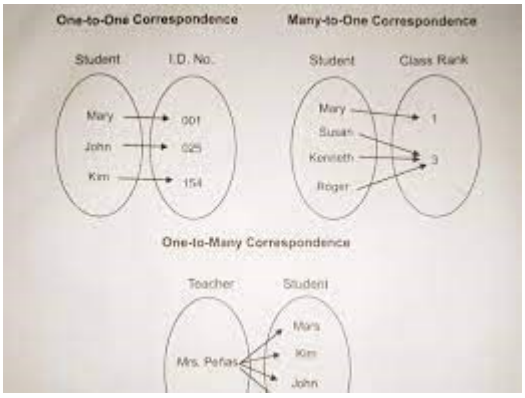
In case of Ordered Pairs Order Matters.

10. If A × B = {(a, 2); (a, 6); (a, 3); (b, 3); (b, 6); (b, 2)}, find B × A.

Solution:

Given AxB = {(a, 2); (a, 6); (a, 3); (b, 3); (b, 6); (b, 2)}

BxA = {(2, a); (6, a); (3, a); (3, b); (6, b); (2, b)}

THURSDAY **13-04-2023**	Solve examples of writing relations in words for Learners to observe.	1. Discuss with Learners on how to state the rules in words to represent a given relation. 2. Assist individual Learners to write rules of given relations in words. A pattern rule is **a mathematical relationship used to find the value of each term in a sequence**. To describe certain sequences, a pattern rule can be established. This is an algebraic equation that enables you to quickly find the value of a term in a sequence using its rank.  	**REMARKS**

Name of Teacher: ***School:*** ***District:***