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# BASIC 7

## WEEKLY LESSON PLAN – WEEK 3

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| **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)** | B7.2.1.1.3 Identify the relation or rule in a pattern/mapping presented numerically or symbolically and predict subsequent elements<br><br>B7.2.1.1.4 Locate points on the number plane, draw table of values of a given relation, draw graphs for given relations and use it to solve problem | | **Performance Indicator:** Learners can determine an element with a rule. | | |
| **Week Ending** | 21-04-2023 | | | | |
| **Class** | B.S.7 | **Class Size:** | | **Duration:** | |
| **Subject** | Mathematics | | | | |
| **Reference** | Mathematics Curriculum, Teachers Resource Pack, Learners Resource Pack, Textbook. | | | | |
| **Teaching / Learning Resources** | Charts, Poster, Pictures. | | **Core Competencies:** | • Analyze and make distinct judgment about viewpoints expressed in an argument | |

| **DAYS** | **PHASE 1 : STARTER** | **PHASE 2: MAIN** | **PHASE 3: REFLECTION** |
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| **MONDAY**<br><br>**17-04-2023** | Assist Learners to identify the rules for symbolic patterns. | 1. Learners brainstorm to differentiate between symbolic patterns and numeric patterns.<br>2. Discuss with Learners on how to determine the rule for a given numeric patterns<br>3. Learners in small groups to discuss and present to the class the rules for examples of symbolic and numeric patterns.<br><br>**Finding Missing Term:** Consider a pattern 1, 4, 9, 16, 25, ?. In this pattern, it is clear that every number is the square of their position number. The missing term takes place at n = 6. So, if the missing is $x_n$, then $x_n = n^2$. Here, n = 6, then $x_n = (6)^2 = 36$.<br><br>**Difference Rule:** Sometimes, it is easy to find the difference between two successive terms. For example, consider 1, 5, 9, 13,……. In this type of pattern, first, we have to find the difference between two pairs of the sequence. After that, find the remaining elements of the pattern. In the given | Ask Learners to find rules to patterns.<br><br>**Exercise;**<br><br>Find the missing numbers in the sequence;<br><br>i. 2, 4, 6, 8, 10, __, 14, __.<br>ii. 8, 16, 32, __, 128, __.<br>iii. |

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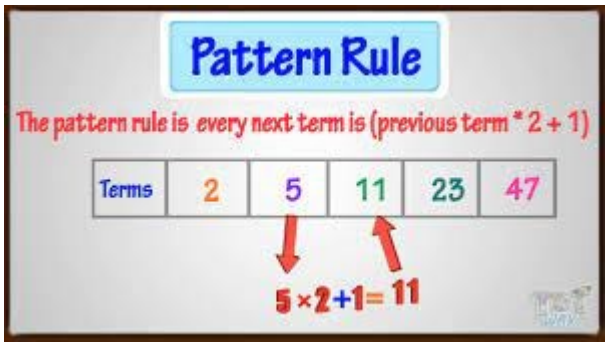
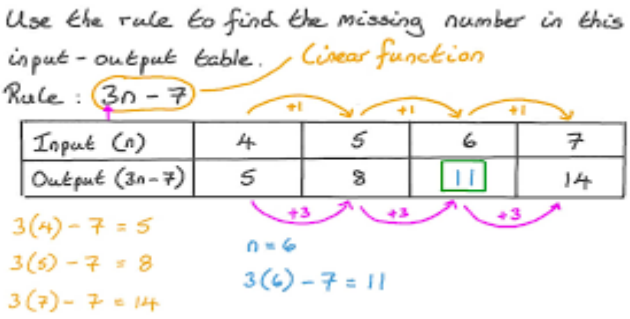
| | | problem, the difference between the terms is 4, i.e.if we add 4 and 1, we get 5, and if we add 4 and 5, we get 9 and so on.<br><br>  <br><br><br>For example, in a sequence 2,4,6,8,?. each number is increasing by sequence 2. So, the last number will be 8 + 2 = 10.<br><br>Few examples of numerical patterns are:<br><br>Even numbers pattern -: 2, 4, 6, 8, 10, 1, 14, 16, 18, …<br><br>Odd numbers pattern -: 3, 5, 7, 9, 11, 13, 15, 17, 19, …<br><br>Fibonacci numbers pattern -: 1, 1, 2, 3, 5, 8 ,13, 21, … and so on. | |
| **TUESDAY**<br><br>**18-04-2023** | Review Learners knowledge on the previous lesson. | 1. Demonstrate on how to find missing values in tables using a rule.<br>2. Assist Learners to find missing values in tables using given rules.<br>3. Learners brainstorm to make tables of values for given rules<br><br>**Finding for missing values in tables;**<br>**The linear process is:**<br><br>1. Identify which two variables you have and the variable you want to know.<br>2. Identify the equation with all three variables in it.<br>3. Isolate the unknown variable (if not already done)<br>4. Plug in the known variables to solve for the unknown<br><br>  <br> | Through questions and answers, conclude the lesson. |

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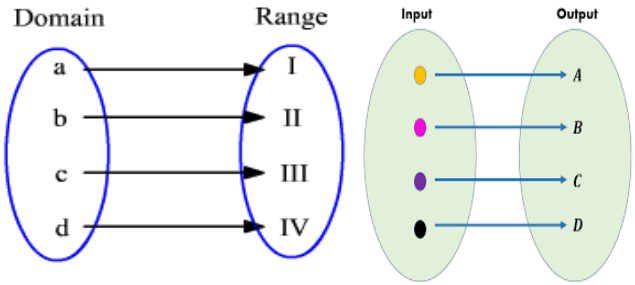
| | | a. According to the given condition, if the input is $x$, then the output is $5x+2$. This rule is fixed and therefore defines a function. Following is the table of values:<br>$x$ \| $5x+2$<br>$-3$ \| $5(-3)+2=-13$<br>$-2$ \| $5(-2)+2=-8$<br>$-1$ \| $5(-1)+2=-3$<br>$0$ \| $5(0)+2=2$<br>$1$ \| $5(1)+2=7$<br>$2$ \| $5(2)+2=12$<br>$3$ \| $5(3)+2=15$ | |
| **THURSDAY**<br><br>**20-04-2023** | Discuss the meaning of "Mapping" with the Learners. | 1. Assist Learners to identify steps to follow to draw a table for the mapping defined by rules on a domain.<br>2. Demonstrate on to how to locate points on a number plane.<br>3. Individual Learners to practice locating points on a number plane.<br>4. Assist Learners to draw graph for given relations.<br><br>**Creating a Mapping Diagram;**<br><br>○ To create a mapping diagram<br>○ draw two circles and label the first as the inputs and the second as the outputs (or whatever these are in the scenario).<br>○ Then, draw an arrow from one input value to its matching output value<br>○ continue until all input, output values are matched<br><br>  <br><br>**Locating Points on a coordinate plane;**<br><br>❖ To identify the x-coordinate of a point on a graph, read the number on the x-axis directly above or below the point.<br>❖ To identify the y-coordinate of a point, read the number on the y-axis directly to the left or right of the point.<br>❖ Remember, to write the ordered pair using the correct order (x,y) . | Learners brainstorm to use knowledge of identifying and plotting points in a number plane to solve problems.<br><br>**Exercise;**<br><br>1. Draw the following ordered pairs in the coordinate plane<br><br>(0, 0); (0,4); (4, -2); (-2, -4); (1, 3)<br><br>1. |

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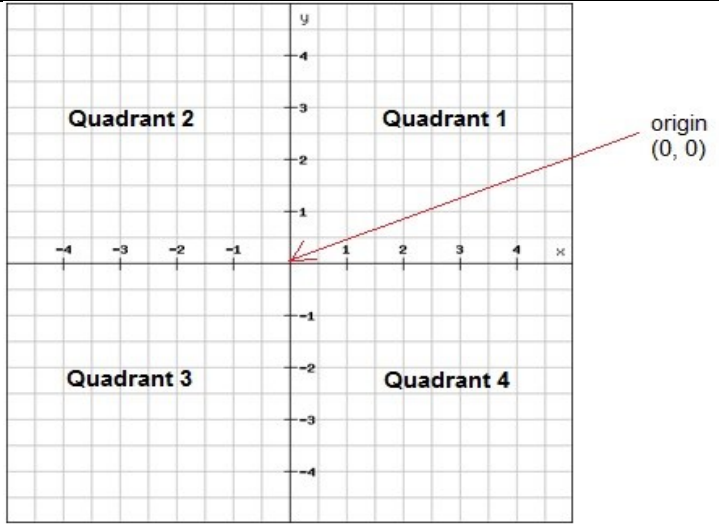
| | |  | |

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