

**SUVA SANGAM COLLEGE**

**YEAR 12**

**MATHEMATICS**

**WORKSHEET 2**

Strand 1	Social Mathematics
Sub-Strand	1.2Modular System and Group
Content Learning Outcome	<ul style="list-style-type: none"> <li>• Define Modular system</li> <li>• Construct modulo table for of addition and multiplication</li> </ul>
Reference from Text	Pg. 8 to 12

**Questions**

<b>No.</b>	<p><b>CONCEPT IN BRIEF:</b>                  Modulo of a number gives the remainder after dividing numbers. The modulus is another name for the remainder after division.                  For <b>example</b>, <math>17 \text{ mod } 5 = 2</math>, since if we divide 17 by 5, we get 3 with remainder 2.                  Examples a. <math>4 \text{ mod } 5 = 4</math>      b. <math>5 \text{ mod } 5 = 0</math>      c. <math>6 \text{ mod } 5 = 1</math></p>																																																																																																									
1.	Find the following a. $3 \text{ mod } 7 =$ b. $4 \text{ mod } 4 =$ c. $9 \text{ mod } 5 =$																																																																																																									
	<p><b>CONCEPT IN BRIEF:</b>                  The numbers which are 6 or more than 6 should be replaced by remainder.</p>																																																																																																									
2.	Fill the multiplication table for Modulo 6. <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px;"><math>\otimes</math></td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">1</td> <td style="border: 1px solid black; padding: 5px;">2</td> <td style="border: 1px solid black; padding: 5px;">3</td> <td style="border: 1px solid black; padding: 5px;">4</td> <td style="border: 1px solid black; padding: 5px;">5</td> <td style="width: 20px;"></td> <td style="border: 1px solid black; padding: 5px;"><math>\otimes</math></td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">1</td> <td style="border: 1px solid black; padding: 5px;">2</td> <td style="border: 1px solid black; padding: 5px;">3</td> <td style="border: 1px solid black; padding: 5px;">4</td> <td style="border: 1px solid black; padding: 5px;">5</td> </tr> <tr> <td style="border: 1px solid black; 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3.	A set $S = \{ 0, 1, 2, 3, 4 \}$ is given under the operation ' <b>addition modulo 4</b> '. Fill the table. <table style="border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 5px;"><math>\oplus</math></td> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;">1</td> <td style="border: 1px solid black; padding: 5px;">2</td> <td style="border: 1px solid black; padding: 5px;">3</td> <td style="border: 1px solid black; padding: 5px;">4</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">0</td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">1</td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">2</td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">3</td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">4</td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> <td style="border: 1px solid black; padding: 5px;"></td> </tr> </table>	$\oplus$	0	1	2	3	4	0						1						2						3						4																																																																										
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