

**SANGAM SKM COLLGE - NADI**  
**YEAR 12 MATHEMATICS 2021 - WORKSHEET 1**

1.	<p>Pita bought a laptop on the following terms</p> <ul style="list-style-type: none"> <li>● \$100 deposit</li> <li>● 12 monthly installments of \$85</li> </ul> <p>Find the total cost of the laptop.</p>																									
2.	<p>Simplify the following:</p> <p>(a) <math>\log 4 + \log 6</math>                      (b) <math>\log xy + \log z</math>                      (c) <math>\log 2x^2 + \log x^2 - \log x</math></p>																									
3.	<p>Add and subtract the following surds:</p> <p>(a) <math>\sqrt{3} + \sqrt{12}</math>    (b) <math>\sqrt{27} - \sqrt{12} + \sqrt{20} - \sqrt{45}</math></p>																									
4.	<p>(a) Complete the table for Modulo 4 multiplication and determine whether it is a group.</p> <table border="1" style="margin-left: auto; margin-right: auto; border-collapse: collapse; text-align: center;"> <thead> <tr> <th><b>x</b></th> <th><b>0</b></th> <th><b>1</b></th> <th><b>2</b></th> <th><b>3</b></th> </tr> </thead> <tbody> <tr> <th><b>0</b></th> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th><b>1</b></th> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th><b>2</b></th> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <th><b>3</b></th> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	<b>x</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>0</b>					<b>1</b>					<b>2</b>					<b>3</b>				
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5.	<p>Simplify the following:</p> <p>(a) <math>2^{5m} \times 2^{3m}</math>                      (b) <math>(3x^3)^2</math>                      (c) <math>\left(\frac{16}{25}\right)^{-1/2}</math></p>																									
6.	<p>Simplify the following:</p> <p>(a) <math>\frac{16^{n+2} \times 2^n}{2^{5n+3}}</math>                      (b) <math>\frac{2^{x+2} + 2^x}{2^x}</math>                      (c) <math>\frac{92x}{3^x}</math></p>																									
7.	<p>Solve the following :</p> <p>(a) <math>3^{3x+3} = 81</math>    (b) <math>2^{n+3} = 35</math></p>																									
8.	<p>Work out the following:</p> <p>(a) <math>1 + 3 \text{ in mod } 4</math>    (b) <math>2 + 1 \text{ mod } 5</math></p>																									