

SUVA SANGAM COLLEGE
YEAR 11
MATHEMATICS LIFE SKILLS
WORKSHEET 8

Strand 1	Social Mathematics
Sub-Strand	11.1.4 Budgeting
Content Learning Outcome	• Demonstrate effective decision making in spending and saving

Questions

1.	Define budget and give two reasons why we need to prepare budget.																			
	<p>Use the information given below to answer questions 2 and 3. Mr. Sharma works as a Manager for hotel products, earning a salary of \$2 800 per month. Given below are the estimated expenses for Mr. Sharma.</p> <table border="1" style="margin-left: 20px;"> <tr><td>Rent</td><td>\$700 a month</td></tr> <tr><td>Entertainment</td><td>\$90 a week</td></tr> <tr><td>Electricity and water bills</td><td>\$80 a month</td></tr> <tr><td>Insurance premiums</td><td>\$90 a month</td></tr> <tr><td>Medical insurance</td><td>\$100 a month</td></tr> <tr><td>Food</td><td>\$200 a week</td></tr> <tr><td>Maintenance of a car</td><td>\$200 a month</td></tr> <tr><td>Clothes</td><td>\$80 a week</td></tr> <tr><td>Children's school expense</td><td>\$70 a week</td></tr> </table>		Rent	\$700 a month	Entertainment	\$90 a week	Electricity and water bills	\$80 a month	Insurance premiums	\$90 a month	Medical insurance	\$100 a month	Food	\$200 a week	Maintenance of a car	\$200 a month	Clothes	\$80 a week	Children's school expense	\$70 a week
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	<p>CONCEPT IN BRIEF: $\text{monthly expense} = \frac{\text{weekly expense} \times 52}{12}$</p>																			
2.	Show the calculations for the following particulars for Mr Sharma's expenses.																			
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	<p>CONCEPT IN BRIEF: Prepare a balanced budget.</p> <p><i>surplus or deficit = total earnings – total expenses</i></p>																																														
3.	Complete the Budget by filling in the blanks.																																														
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SUVA SANGAM COLLEGE

YEAR 11

APPLIED MATHEMATICS

WORKSHEET 8

Strand	Algebra
Sub-Strand	Sequences
Content Learning Outcome	Evaluate sigma notation, find nth term and sum of Arithmetic Sequence.
Reference from Text	Pg 55 - 58

Questions

	<p>CONCEPT IN BRIEF:</p> <p>$\sum \rightarrow$ means sum of</p> <p>Example: $\sum_{n=1}^4(n) = 1 + 2 + 3 + 4 = 10$</p>
1.	<p>Work out the following summation.</p> <p>(a) $\sum_{n=1}^4(2n + 1)$</p> <p>(b) $\sum_{r=-1}^3(r^2 - 2)$</p>
	<p>CONCEPT IN BRIEF:</p> <p>To find the n^{th} term of an arithmetic sequence: $T_n = a + (n - 1)d$ where $a = \text{first term}, d = \text{common difference}, n = \text{number of terms}.$</p> <p style="text-align: center;">$d = t_2 - t_1$</p>
2.	<p>An arithmetic sequence is given as $\langle 5, 9, 13, 17, \dots \dots \dots \rangle$</p> <p>(a) Find the common difference of the sequence</p> <p>(b) Find the 20th term of the sequence.</p>
	<p>CONCEPT IN BRIEF:</p> <p>To find the sum of the first n terms of an arithmetic sequence;</p> <p style="text-align: center;">$S_n = \frac{n}{2}[2a + (n - 1)d]$ where $a = \text{first term}, d =$ $\text{common difference}, n = \text{number of terms}.$</p>
3.	<p>For the arithmetic sequence $\langle 5, 9, 13, 17, \dots \dots \dots \rangle$, find the sum of the first fifteen terms of the sequence.</p>