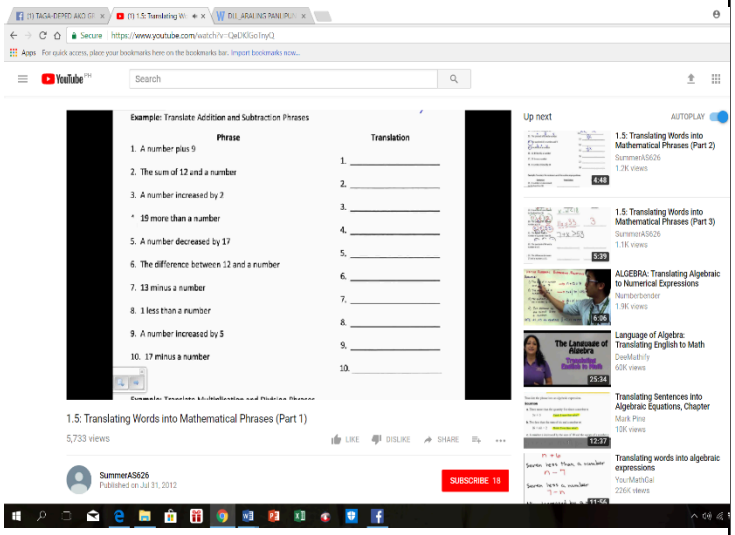
GRADE 6	School:		Grade Level:	VI
	Teacher:		Learning Area:	MATHEMATICS
DAILY LESSON LOG	Teaching Dates and Time:	(WEEK 6)	Quarter:	3RD QUARTER

WEEK 6	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
I. OBJECTIVES	The learner…..				
A. Content Standard	demonstrates understanding of sequence in forming rules, expressions and equations.				
B. Performance Standard	is able to apply knowledge of sequence, expressions, and equations in mathematical problems and real-life situations.				
C. Learning Competencies / Objectives	solves routine and non-routine problems involving different types of numerical expressions and equations such as 7+ 9 =___ + 6. creates routine and non-routine problems involving numerical expressions and equations.				Answer the questions on Chapter Test , page 97-98
II. CONTENT	Patterns and Algebra	Patterns and Algebra	Patterns and Algebra	Patterns and Algebra	
III. LEARNING RESOURCES					
A. References					
1. Teacher's Guide pages	21ST Century Mathletes, p.85-90	21ST Century Mathletes, p.85-90	21ST Century Mathletes, p.91-93	21ST Century Mathletes, p.91-93	
0. Learner's Materials pages	21st Century Mathletes 6, 200-209	21st Century Mathletes 6,	21st Century Mathletes 6	21st Century Mathletes 6,	
0. Textbook pages	21st Century Mathletes 6	21st Century Mathletes 6	21st Century Mathletes 6	21st Century Mathletes 6,	
0. Additional Materials from Learning Resource (LR) Portal					
B. Other Learning Resources	Mathletes 6 textbook, video clip,	Mathletes 6 textbook, video clip, power point presentation,	Mathletes 6 textbook, video clip,	Mathletes 6 textbook, video clip, power point presentation	

	power point presentation	drawings of patterns, picture cards	power point presentation		
IV. PROCEDURES					
A. Reviewing previous lesson or presenting the new lesson	Drill: Determining what number should be in place of the question mark to make the mathematical statement correct. 1. + 7=11 2. 96/? = 6 3. 2 x (15-?) = 20 4. 5 x (? + 2) =15 5. ? + 3 = 21 - ? Review: Translate the ff. sentences to algebraic equations 1.Twice a number is equal to six. 2.If three times a number is decreased by two, the answer is seven. 3.The ratio of a number and ten is two. 4.Half of the sum of a number and three is six 5.The difference of seven and a number is equal to six times the number.	A. Simplify each of the expression by combining like terms. Follow the order of operations. Example: 3m+5m = 8m, 5p+2y-3p = 5p-3p+2y = 2p+2y, 8p+2p-7q = 10p-7q 1. 6a + 59 = 2. 7x – 5x = 3. 9 + 2 + x = 4. 3p + 5 – 2p = 5. 4t + 3 – 2t + 6 = 6. 7a + 2a + 3b = Ans: A. 1. 11a 2. 2x 3. 11 + x 4. 1p + 5 or p + 5 5. 2t + 9 6. 9a + 3b	Put the known terms together on one side and the unknown terms on the other side of the equation. Examples: 2x + 4 = 20 2x = 20 – 4, 3a – 8 = 10 3a = 10 + 8 1. 4b + 7 = 41 2. 7a + 5 = 54 3. 5 + 8y = 77 4. 4a + 35 = 51 Ans: B. 1. 4b = 41 – 7 2. 7a = 54 - 5 3. 8y = 77 – 5 4. 4a = 51 - 35	A. Simplify each expression. Follow the rules from the order of operation. 1. 8x + 9 – 3 + 2x 2. 12 – 2*5 + 3y + y 3. 9a – 3a*2 +6a – 9 4. 7 + 9*3 +5n -3n 5. 36c + 11c -9c +4d 	Preparation
B. Establishing a purpose for the lesson	Impress your pupils by being able to guess the number they are thinking of. Ask a pupil to think of any number from	**Show a video to the pupils "Solving Equation Song"**	Show the video of Beginning Algebra & Word Problem Steps	**Show a video to the pupils** https://www.youtube.com/watch?v=-EwUcnZx4dI	Test Proper

	1-10. Have it undergo a series of operations and have the pupil update the answer in his mind in every operation done. Finally, ask the pupil to give the answer he or she had to the last operation done. Using your knowledge of algebra and working backward, guess the original number.				
C. Presenting Examples/Instances of new lesson	Ige is twice as old as his brother Elmo. The sum of their ages is 21. How old are they now? Present the ways in solving equations in the form ax + b = c. use 2x + 3 = 7 as an example ● Guess and test ● Cover Up ● Work Backward ● Balancing Method (TG p. 95) Show a video of "Basic Algebra Rules"	Consider the ff. verbal sentences. 1. A number increased by 5 is 12 2. The sum of two numbers is 8. If the first number is 3, what is the second number? 3. If we let x be the unknown number, how can these sentences be translated into mathematical equations? What is the value of x? (Discuss the content on page 238-239	Read and solve this problem: A basket is full of fruits with bananas and mangoes. The bananas are 3 times the number of mangoes. How many of each kind of fruits are there, if there are 20 fruits in the basket? The number of mangoes is unk?nown, so let us represent n for mangoes. n = number of mangoes The bananas are 3x the number of mangoes, so if n is number of mangoes; the number of banana is 3n. 3n = number of bananas	Let us find the value of the variable in another equation. Solve for variable x in 5x – 3x = 24. 5x – 3x = 24 5x and 3x are two like terms, so we can subtract to get 2x. 2x = 24 to find the value of x, divide 24 by 2. X = 24 ÷ 2 X = 12 To check, let us evaluate 5x – 3x, given x = 12 5x – 3x = 5 (12) – 3 (12) = 60 – 36 = 24, then 24 =24 Therefore, 12 is the solution to the equation 5x – 3x = 24. When we add or subtract like terms, add or subtract the number part of the terms, while the variable remains the same. The number part of a term is called the coefficient of 5x is 5 and the variable is x. Other expressions have unlike terms like 4x + 2y and 5x + 3. The unlike terms of 4x + 2y are 4x and 2y. We cannot add or subtract unlike terms. 8x and 2 are unlike terms, so we cannot add **8x + 2.**	Checking

			Add the number of mangoes and bananas and we will have the total number of fruits. Since the total number of fruits is 20, therefore, the equation will be: $3n + n = 20$ Let's find the solution to variable n is the equation, $3n + n = 20$. $3n + n = 20$ simplify $3n + n$. They are two like terms, so we can add to get $4n$. $4n=20$ we know $4n$ means 4 times n. $n = 20 \div 4$ to get the value of n, divide 20 by 4. $n = 5$ the solution to variable n in the equation $3n + n = 20$ is 5. n is the number of mangoes, so there are 5 mangoes. 3n is the number of bananas, so there are 15 bananas. To check, given the value n = 5, lets evaluate $3n + n$. $3n + n = 3(5) + 5 = 15 + 5 = 20$, then $20 = 20$		

			Therefore the value of the variable n in 3n + N = 20 is 5.		
D. Discussing new concepts and practicing new skills #1	Define the ff. term: ● Solution- a number that makes an algebraic equation true or correct. Introduce the 4 basic rules for solving equations. 1. Addition Property of Equality: if the same quantity is added to both sides of an equation, the resulting equation is equivalent to the original equation. 2. Subtraction Property of Equality: If the same quantity is subtracted from both sides, the resulting equation is equivalent to the original. 3. Multiplicatio n Property of Equality:	Study these other examples of finding solution to equations: 1. Find the solution to variable x in the equation, x + 3 = 19. X + 3 = 19 transpose 3 to the other side of the equation using the inverse operation x = 19 – 3 x = 16 To check, evaluate x + 3, given x = 16 X + 3 = 16 + 3 = 19 the result is 19, therefore 16 is the value of x in x + 3 = 19.	Discussion:Try to look at how expressions are simplified. a. 5 x k =5k d. 3 x X x Y = 3xy b. a ÷ 7 = a/7 e. 5 x b ÷ 8 = 5b/8 c. a x b x a = a^2b f. (c x d) ÷ (e x f) = cd/ef Another example: If we give a value to the variable, we can evaluate an algebraic expression. Let's evaluate 2a + 3b, if a = 5 and b =8. 2a means 2 times a and we write: 2*a or 2 (a) 3b means 3 times b and we write: 3*b or 3(b) To evaluate 2a + 3b, given a=5 and b=8, we may do this: 2a + 3b = 2(5) + 3(8) = + 24 = 34 Notice that we get a number when we evaluate an expression. We also need to follow the rule of operations. That is, starting from left to right, multiply or divide first before	Study this example: evaluate the expression, 5x + 3.2x – 5, given x = 4. 5x + 3.2x – 5 = 5(4) + 6x – 5 = 20 + 6(4) – 5 =20 + 24 – 5 = 39 Substitute the value of X and multiply, before adding and subtracting to get the answer of 39.	Recording

	If both sides of an equation are multiplied by the same (nonzero) quantity, the resulting equation is equivalent to the original equation. 4. Division Property of Equality: If both sides of an equation are divided by the same (nonzero) quantity, the resulting equation is equivalent to the original equation. Give the ff. examples to be solved using different methods. 1. N + 5 = -5 2. 5y – 2 = 18 3. C + 18 = 29 4. -32 = 15 + d 5. 3f = -12		adding or subtracting.		
E. Discussing new concepts and practicing new skills #2	Study another example: Find the value of $2n-3 – 4 = 10$	Find the value of the variable in 6n + 2n + 5 = 29.	Find the solution to 9x – 3 = 15. 9x – 3 = 15 transpose 3 to the other side of the	Write the following algebraic expressions without using the multiplication signs. Example: a.) 5 x b = 5b b.) 6 x (c+7) = 6(c+7) 1. 7 x a =	

	-3 (2n-3 – 4) = (10) (-3) multiplying both sides by -3. (MPE) 2n + 12 = -30 2n + 12 – 12 = -30 -12 Subtract 12 from both sides (SPE) 2n= -42 2n2 = -42-2 Divide both sides by 2 (DPE) Group Activity: B. Find the solution to each equation. 6. 9x + 3 = 48 7. 3b + 14 = 29 8. 4n – 10 = 38 Ans.: A. 1. x = 8 2. n = 10 3. c = 21 4. a = 6 5. p = 2 B. 6. 5 7. 5 8. 12 Group Activity: Creates routine and non-routine problems involving numerical expressions and equation. Let the other group answer the problem you had created.	6n + 2n + 5 = 29 add like terms 6n and 2n to get 8n. 8n + 5 = 29 transpose 5 to the other side of equation using the inverse operation. 8n = 29 – 5 8n = 24 to find the value of n, divide 24 by 8. n = 24 ÷ 8 n = 3 To check, evaluate 6n + 2n + 5, given n = 3. 6(3) + 2(3) +5 = 18 + 6 + 5 = 29 The result is 29, therefore 3 is the value of n in 6n + 2n + 5 = 29 Notice that we put the known term on one side of the equation and the unknown on the other side. The term with variable, 8n is the unknown and the known terms are 5 and 29. An equation has two sides separated by the = symbol. When we transpose terms from one side of the equation to the other side, we use the inverse operation.	equation using the inverse operation 9x = 15 + 3 9x = 18 to find the value of x, divide 18 by 9. X = 18 ÷ 9 X = 2 To check, evaluate 9x – 3, given x = 2. 9x – 3 = 9(2) – 3 = 18 – 3 = 15 the result is 15, therefore 2 is the solution to the equation 9x – 3 = 15. Group Activity: Creates routine and non-routine problems involving numerical expressions and equations using the data given below. Example:	2. X x 10 = 3. 5 x (a+2) = 4. 4 x a + 5 x b = 5. 1 x n – 10 = 6. 5 + 2 x c = Group Activity: Creates routine and non-routine problems involving numerical expressions and equation. Let the other group answer the problem you had created.	

Item	Price
Bath soap	₱ 35.50
Toothpaste	₱ 55.50
Shampoo	₱ 64.50
Toothbrush	₱ 79.50

		Like for example 9x – 3 = 15, transpose 3 to the other side, it becomes 9x = 15 + 3, likewise 8n + 5 = 29 becomes 8n = 29 – 5.	a) Which two items that can be purchased with ₱100 without change? Write the equation. b)What is the total cost of 2 bath soaps and a toothpaste? Write the equation.		
F. Developing mastery (Leads to Formative Assessment)	Group Activity: Assigned the given examples on page 239-246 of Mathlete Txbk. Let the leaders of the group explain the assigned problems to them.	A. Simplify each of equation by combining like terms. Follow the order of operation. 1. 2x + 9x – 3 – 5x = 6x – 3 2. 5n – 3n + 6 – 3 = 3. 9y + 20 – 5 + 6 = 4. 12a – 2a + 5 = 5. 12y + 8 – 2y + 6 =	Solve each equation then check: 1. z/4 – 7 = 3 2. 3x/4 = -9 3. -5y/-2 = 10 Find for the solution of each equation. 1. x + 15 = 23 2. 6x – 8 = 10 3. 4b – 12 = 24	. Find for the solution of each equation. 1. 2b + 10 =12 2. 8 + 5x = 41 3. 6c – 42 = 12 4. 3n = 60 + n 5. 7a + 5 = 54	
G. Finding practical applications of concepts and skills in daily living	Give the scenarios and tell the pupils to follow this flow in solving the equation: a. What is asked? a. What are the given facts? a. What equation shall we do to solve the problem? What is the solution to the equation? (See TG on page 96)	Write an algebraic equation and solve the equation. During the council meeting, the number of women is 2 times the number of men. How many women and men attended the meeting if there were 30 people present? Group Activity: Creates routine and non-routine problems involving numerical expressions and	A. Solve for the variable in each equation. 1. 3x + 8 = 32 x = _____ 2. 5n – 28 = 22 n = _____ 3. 2c – 16 = 26 c = _____ 4. 5a - 3a = 9 + 3 a = _____ 5. 9p + 3p = 43 – 19p p = _____	Evaluate each expression, given x = 2 and y = 3. 1.. 2x + 4y = 2(2) + 4(3) = 4 + 12 = 16 2. 12y + 3x = _____ 3. 5x * 2y = _____ 4. 8x – 3y = _____ 5. 7x – 4y + 6xy = _____	

		equation. Let the other group answer the problem you had created.			
H. Making generalizations and abstractions about the lesson	What are the four basic rules in solving equations? An algebraic expression is any combination of numbers constant and variables with operations such as addition, subtraction, multiplication or division. To evaluate an expression means to find a number solution to the expression, given the value of the variables. To simplify an expression means to make it simple or shorter by combining like terms in the expressions.				
I. Evaluating Learning	Refer to textbook, pages 247 and let the pupils answer Evaluate A-C, all even-numbered items.	Refer to textbook, pages 247 and let the pupils answer Evaluate A-C, all even-odd items.	Write an expression for each problem/situation and solve the expression. 1.Helen is 13 years old, Helen's father is 4 years more than twice her age. 2.Edna is 155 cm tall. Lilia's height is 10 cm less than twice Edna's height. 3.Roman weights 25 kilograms. His father weighs 5 kg less than 3 times Romans weight. 4.Francis is ten years old. Ben is twice as old as Francis. 5.Aning is five years old. I am six years more than thrice her age.	Answer the ff. problems. 1.Four friends share a box of pens. Each receives 3 pens. Write and solve the equation to find the number of pens in the box. 2.There are 56 pupils in a class. Thirty-six of them joined the fieldtrip. Write an equation to find the number of pupils who did not join the fieldtrip. 3.A can travels at an average span of 36 km per hour. Write and solve an equation to predict how many hours it will take to travel 432 km if it continues at this speed.	
J. Additional activities for	Answer Math Challenge on page 248				

application and remediation					
V. Remarks					
VI. REFLECTIONS					
A. No. of learners who earned 80% on the formative assessment					
B. No. of learners who require additional activities for remediation who scored below 80%					
C. Did the remedial lessons work? No. of learners who have caught up with the lesson					
D. No. of learners who continue to require remediation					
E. Which of my teaching strategies worked well? Why did this work?					
F. What difficulties did I encountered which my principal or supervisor can help me solve?					
G. What innovation or localized materials did I use/discover					

which I wish to share with other teachers?					