



MATATAG

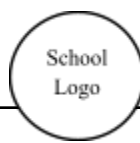
Bansang Makabata



Batang Makabansa



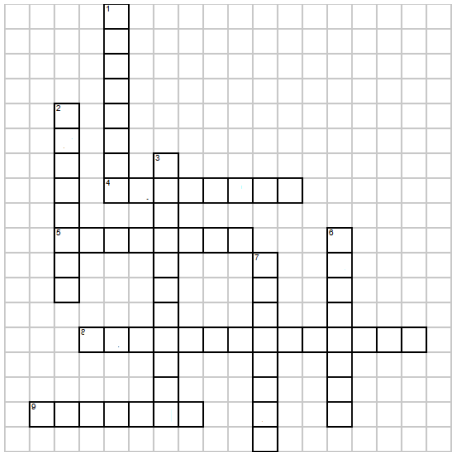
BAGONG PILIPINAS



School
Logo

Name of School:		Quarter:	4th Quarter
Grade Level & Section:	Grade 7	Week:	Week 4 Day 4
Subject:	MATHEMATICS	Date and Time:	
Topic:		Teacher:	

I. CONTENT, STANDARDS AND LEARNING COMPETENCIES		ANNOTATIONS
A. CONTENT STANDARDS	The learners should have knowledge and understanding of the solution of simple equations.	
B. PERFORMANCE STANDARDS	By the end of the quarter, the learners are able to solve simple equations.	
C. LEARNING COMPETENCIES AND OBJECTIVES	Algebraic Equation (Week 4) 2.2 Solving Equations by Applying Properties of Equality 2.3 Solving Problems Involving Algebraic Formulas	
I. CONTENT		
Algebraic Equation (Week 4)		
2.2 Solving Equations by Applying Properties of Equality		
II. LEARNING RESOURCES		
A. REFERENCES	Department of Education. (2020). Mathematics quarter 2 – module 4: algebraic expressions. (1). k-to-12-grade-7-learning-material-in-mathematics-quarter-3.pdf - Google Drive	

	CK-12 Foundation. (2024, January 11). Evaluating algebraic expressions and equations. https://flexbooks.ck12.org/cbook/ck-12-algebra-ii-with-trigonometry-concepts/section/1.4/primary/lesson/evaluating-algebraic-expressions-and-equations-alg-ii/CueMath. (2024, January 15). Properties of equality. Cuemath. https://www.cuemath.com/algebra/properties-of-equality/ National Repository of Online Courses (2023, December 17). Solving one-step equations using properties of equality. LibreTexts Mathematics. https://math.libretexts.org/Bookshelves/Applied_Mathematics/Developmental_Math_(NROC)/10%3A_Solving_Equations_and_Inequalities/10.01%3A_Solving_Equations/10.1.01%3A_Solving_One-Step_Equations_Using_Properties_of_Equality	
B. OTHER LEARNING RESOURCES		
III. TEACHING AND LEARNING PROCEDURE		
BEFORE/PRE-LESSON PROPER		
ACTIVATING PRIOR KNOWLEDGE	Equation Solver's Crossword  Across:	ANSWER: 1. VARIABLE 2. CONSTANT 3. SUBTRACTION 4. EQUATION 5. ADDITION 6. SOLUTION 7. DIVISION 8. MULTIPLICATION 9. SOLVING

	4. The mathematical term for a balanced statement with an equal sign 5. The property that allows adding the same number to both sides 8. The property that allows multiplying both sides by the same number 9. The process of finding the value of a variable Down: 1. A letter that represents an unknown number in an equation 2. The number in an equation that does not change 3. The inverse operation of addition 6. The result of solving an equation 7. The result of solving an equation	
LESSON PURPOSE/INTENTION	Today we will continue our discussion about Solving equations by Applying Properties of Equality.	
LESSON LANGUAGE PRACTICE		
DURING/LESSON PROPER		
READING THE KEY IDEA/STEM	There are several ways to solve problems involving algebraic equations. Identify the appropriate formula that applies to the given statement. This involves determining which formula relates the given quantities to the unknown quantities. Once you have identified the correct formula, substitute the given data into it, and then solve for the unknown variable. Integration of algebraic formulas in daily life can occur in various scenarios such as budgeting and finance, adjusting ingredient quantities in recipes, home improvement, health and fitness, travel planning, shopping and discounts, and	

	many more. Algebraic formulas are universal and play a crucial role in problem-solving across various areas. Solving problems involving algebraic formulas naturally involves the following steps: 1. Understand the problem- read and check what is the problem all about and what information is given. 2. Identify variables – what does each variable represent? 3. Write the equations- use the given information to write equations that will represent the problem using algebraic formulas. 4. Solve the equations. 5. Check your solution. 6. Interpret the solution. By following the steps scientifically, you can efficiently solve problems involving algebraic formulas. Worked Example Example No. 1 When 23 is decreased from 5 times a number, the result is 57. Find the number. Solution: Let x = be the number Mathematical translation of the problem Equation: $5x - 23 = 57$ APE (Add 23 from both sides) $5x - 23 + 23 = 57 + 23$ $5x = 80$ Simplify $5x \frac{1}{5} = 8 \frac{1}{5}$ MPE (Multiply 1/5 on both sides) $X = 16$ Simplify	Worked example Checking: $5x - 23 = 57$ $5(16) - 23 = 57$ $80 - 23 = 57$ $57 = 57$ True
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	Example No. 2 If Alexa wants to save Php 500 each month and currently has saved Php 200, how many months will it take her to reach her goal of saving Php 3200? Let x = be the number of months she will reach her goal Equation: $500x + 200 = 3200$ Solution: $500x + 200 = 3200$ $500x + 200 - 200 = 3200 - 200 \quad \text{Add - 200 on both sides}$ $500x = 3000$ $500x \div 500 = 3000 \div 500 \quad \text{Multiply both sides by } \frac{1}{500}$ $x = 6 \quad \text{Simplify}$	
DEVELOPING and DEEPENING UNDERSTANDING OF THE KEY IDEA/STEM	Lesson Activity Activity 1: Solve Me! Read and analyze the problem, then answer the question that follows. - The sum of a number and 20 is three times the number, what is the number? - If the perimeter of a square garden is 48 m., what is the length of each side of the garden? - Tina had Php 300.00 in her wallet. She bought 4 ribbons worth x pesos each.	Activity 1 Answer: $x + 20 = 3x$ $x = 10$ $P = 4s$ $48m = 4s$ $s = 12m$ $(300 - 100)/4 = x$ $x = 50.00$ a. Yes

	If the money left in her wallet is Php 100.00, how much is the price of each ribbon? 4. A student gave the solution to the given equation $-14 = 3x - 2$. Check if the answer is correct. $-14 = 3x - 2$ $-14 + 2 = 3x - 2 + 2$ $-12 = 3x$ $-12 \left(\frac{1}{3}\right) = 3x \left(\frac{1}{3}\right)$ $-4 = x$ a. Is the solution correct? b. Did you find the value of the unknown? c. Do you have suggestions for making the solution simpler?	b. $x = -4$ c. $-14 = 3x - 2$ $-14 + 2 = 3x$ $-12 = 3x$ $-4 = x$
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AFTER AFTER/POST-LESSON

MAKING GENERALIZATIONS AND ABSTRACTIONS	Reflection on Learning Let the student prepare their reflection journal. Let them reflect on their experience using the bar method in analyzing the equation and finding the unknown value of the variable. Talk about the essence: why do they always need to check the value of the unknown that they have solved? What is the application of solving equations involving algebraic formulas and properties of equality? How can they apply it in their daily life?	The teacher may add more questions as the learners reflect on what they have gained from the lesson. Let them share with the class or with a classmate.
EVALUATING LEARNING	Formative Assessment A. Answer the following, show your solution, and check. 1. What is the value of y in the algebraic equation $2y + 4 = 16$ using the properties of equality?	ANSWER KEY: 1. $y = 6$ Check: $2(6) + 4 = 16$

	2. What property of equality can we use to solve the given equation $4x = 28$? 3. Thirty-five more than 8 times a number is the same as 40 less than the product of -7 and the number. What is the number? 4. What is wrong with the given equation? Explain then make necessary corrections. $2a - 5 = 17$ $2a - 5 + 5 = 17 - 5$ $2a = 12$ $a = 6$ 5. Alexa has invested part of Php 30,000.00 at 5% interest and has deposited the rest at 6% interest in the bank. If her investment gives her an annual income of Php 1,620.00, how much has she invested in each? 6. The difference between the two numbers is 67. The larger number is 3 less than six times the smaller number. Find the two numbers. 7. The age of Alex is 4, more than 3 times the age of Sonny. The sum of their ages is 32. Find their ages.	$12 + 4 = 16$ $16 = 16$ 2. Multiplication Property $4x = 28$ $x = 7$ 3. $x = 1$ 4. $2a - 5 = 17$ $2a - 5 + 5 = 17 + 5$ $2a = 22$ $a = 11$ 5. $0.05x + 0.06(30,000 - x) = 1620$ $x = 18,000$ 18, 000 is the amount invested at 5% and 12,000 is the amount invested at 6% 6. $(6x - 3) - x = 67$ $x = 14$ larger number = 81 7. $x + 3x + 4 = 32$ $x = 7$ Sonny is 7 years old Alex is 25 years old
ADDITIONAL ACTIVITIES FOR APPLICATION OR REMEDIATION (IF APPLICABLE)		

REMARKS		
REFLECTION		

Prepared by:

Subject Teacher
Teacher

Reviewed by:

Master Teacher/Head