Strand:	Algebra	**Sub-Strand:**	Algebraic Expressions

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BASIC 9

WEEKLY LESSON PLAN – WEEK 6

Content Standard:	B9.2.2.1 Demonstrate an understanding of (i) change of subject (ii) substituting values to evaluate expressions, and (iii) factorize expressions that have simple binomial as a factor.				
Indicator (s)	B9.2.2.1.4 Use the knowledge of simplifying and factorizing expressions to solve real world problems.	**Performance Indicator:** Learners can simplify and factorize algebraic expressions.			
Week Ending	16-02-2024				
Class	B.S.9	**Class Size:**		**Duration:**	
Subject	Mathematics				
Reference	Mathematics Curriculum, Teachers Resource Pack, Learners Resource Pack				
Teaching / Learning Resources	Poster, Pictures, video, charts	**Core Competencies:**	• Creativity and Innovation • Manipulative skills • Operational skills.		

DAY/DATE	**PHASE 1 : STARTER**	**PHASE 2: MAIN**	**PHASE 3: REFLECTION**
MONDAY	Assist Learners to use and interpret algebraic notations.	1. Demonstrate on simplifying algebraic expressions. 2. Learners brainstorm to simplify and manipulate algebraic expressions by collecting like terms. 3. Learners in small groups to discuss and solve more examples of simplifying algebraic expressions. Expanding, simplifying, factorising, solving 1. Expand and simplify $2(x + 1) - 3(4 - 2x)$ 2. Expand, simplify, and factorise fully $2(x + 1) - 3(4 - 2x)$ 3. Solve $2(x + 1) = 3(4 - 2x)$ 4. Solve $(x + 1)^2 = 4(x + 4)$	Reflect on interpreting algebraic notations. **Exercise;** 1. Simplify a−2a+3a−4a+5a−6a+…+49a−50a 2. Fill in the blank: (2x+1)+(2x+1)+(2x+1)+(2x+1≡ ___(2x+1)

		Warm-up activity  **Simplify** the following expressions. 1) $x+x+x$ 5) $2c\times 3d$ 2) $y\times 5$ 6) t^3+t^3 3) $m\times m\times m$ 7) $5\times y^3$ 4) $a\times 3b$ 8) $4x\times 3x$	
WEDNESDAY	Review Learners knowledge on the previous lesson.	1. Demonstrate on multiplying a single term over a bracket. 2. Assist Learners to expand and simplify an algebraic expression by multiplying a single term over a bracket. 3. Learners brainstorm to factorize expressions involving single set of brackets. 4. Assist Learners to multiply two or more brackets involving algebraic expressions. Warm-up activity  **Expand** the following: 1) $2(x+8)$ 5) $x(x+4)$ 2) $7(4+t)$ 6) $a(b+2)$ 3) $3(2a+5)$ 7) $x(2x+5)$ 4) $4(3x+y)$ 8) $2(x+y+z)$	Through questions and answers, conclude the lesson. **Exercise;** 1. Given that x is a positive integer, explain why $3x+21$ cannot be prime. 2. Given that n is positive integer, decide whether each of the following is true or false: 3. 4 must be a factor of $4n+12$ 4. 8 cannot be a factor of $4n+12$ 5. 5 cannot be a factor of $4n+12$ 6. $8n+12$ must be a multiple of $4n+12$ 7. $8n+24$ must be a multiple of $4n+12$ 8. The highest common factor of $(5n+15)$ and $(4n+12)$ must be greater than 1

FRIDAY	Demonstrate on solving linear equations in one unknown algebraically where the unknown is on both sides of the equation	1. Assist Learners to solve linear equations involving algebraic fractions where the unknown is on both sides of the equation. 2. Learners in small groups to discuss and solve quadratic equations by factorizing. 3. Assist Learners to apply the knowledge of simplifying and factorizing expressions to solve real world problems. **Examples** ***Example 1*** She has to read two books over her 72-day summer vacation. Her plan is to read the same number of pages each day. First, Kate should decide on her variables. She doesn't know the number of pages in either book, so she will need two variables. Let x equal the number of pages in the first book. Let yequal the number of pages in the second book. Next, write a variable expression using x and y. In total Kate will have to read x+y pages. She is going to read the same number of pages each of the 72 days of vacation. This means she should divide the total number of pages by 72 to find out how many pages she needs to read each day. Her expression is x+y/72 The answer is Kate needs to read x+y/72 pages each day if x is the number of pages in the first book and y is the number of pages in the second book. ***Example 2*** John runs the same number of miles each day. Write an expression to represent the number of miles John ran in June last year. First, decide on your variable. You don't know how many miles John runs each day, but you know every day it is the same. Let m equal the number of miles John runs each day. Next, write a variable expression using m . In one day John runs m miles. In 2 days John runs 2m miles. The question asks for an expression that represents how many miles John ran in June. June is a month with 30 days. So your expression is 30m The answer is John ran 30m miles in June last year where m is the number of miles he runs each day. ***Example 3*** Karen bakes the same number of cookies each day in her bakery. Write an expression to represent the total	Reflect on solving real world problems by applying the knowledge of simplifying and factorizing expressions. **Exercise;** 1. A librarian has 4 times as many mystery books as romances. She lends out 12 mysteries. How many mysteries does she have now if she started with 15 romances? 2. In Saturday's basketball game, Roman scored a fourth of his teams points. If the team scored 48 points total, how many points did Roman score? Write an expression and solve. 3. At the garden show daffodil bulbs cost $3 and tulip bulbs cost $4. Latoya buys 7 tulip bulbs and twice as many daffodil bulbs as tulips bulbs. How much does she spend total? Write an expression and solv

		number of cookies Karen bakes in a week. First, decide on your variable. You don't know how many cookies Karen bakes each day, but you know every day it is the same. Let c equal the number of cookies Karen bakes each day. Next, write a variable expression using c. In one day Karen bakes c cookies. In 2 days Karen bakes 2c cookies. The question asks for an expression that represents the total number of cookies Karen bakes in a week. A week has 7 days. So your expression is 7c The answer is Karen bakes 7c cookies each week where c is the number of cookies she bakes each day. .	

Name of Teacher: **School:** **District:**