

**GRADE 8 – QUARTER 1**

<b>CONTENT DOMAIN</b>	<b>CONTENT STANDARDS</b> <i>The learners demonstrate knowledge and understanding of...</i>	<b>LEARNING COMPETENCIES</b> <i>The learners...</i>
<b>Data and Probability (DP)</b>	1. measures of central tendency of ungrouped data.	1. determine measures of central tendency of ungrouped data. 2. draw conclusions from statistical data using the measures of central tendency.
<b>Number and Algebra (NA)</b>	2. algebraic expressions and operations with monomials, binomials, and multinomials. 3. special products for binomials, and factorization of polynomials. 4. rational algebraic expressions and equations. 5. rules for obtaining terms in sequences.	3. model real-life situations using algebraic expressions. 4. add and subtract simple monomials. 5. multiply and divide simple monomials, leading to the derivation of the laws of exponents. 6. multiply simple monomials and binomials with simple binomials and multinomials, using the distributive property with various techniques and models. 7. use special product patterns to multiply binomials. 8. completely factor different types of polynomials (polynomials with common monomial factor; difference of two squares; quadratic trinomials, including perfect square trinomials). 9. solve problems involving special products and factors of polynomials. 10. simplify rational algebraic expressions. 11. perform operations on rational algebraic expressions. 12. solve problems involving simple rational algebraic equations (using cross-multiplication). 13. formulate the rule for finding the next term in a sequence by looking for patterns.
<p><b>Performance Standards</b></p> <p><i>By the end of the quarter, the learners are able to ...</i></p> <ul style="list-style-type: none"> <li>• determine measures of central tendency of ungrouped data and use the measures to draw conclusions. (DP)</li> <li>• add and subtract monomials, and multiply combinations of monomials, binomials, and multinomials. (NA)</li> <li>• obtain special binomial products. (NA)</li> <li>• factorize different types of polynomials. (NA)</li> <li>• simplify, and operate with, rational algebraic expressions and solve simple rational algebraic equations. (NA)</li> <li>• obtain the rule for finding the next term in a sequence. (NA)</li> </ul>		

**GRADE 8 – QUARTER 2**

<b>CONTENT DOMAIN</b>	<b>CONTENT STANDARDS</b> <i>The learners demonstrate knowledge and understanding of...</i>	<b>LEARNING COMPETENCIES</b> <i>The learners...</i>
<b>Number and Algebra (NA)</b>	1. plotting points, and finding distance and the midpoint of line segments on the Cartesian coordinate plane.	1. illustrate and describe the Cartesian coordinate plane. 2. plot points on the Cartesian coordinate plane and determine the coordinates of a point on the plane. 3. solve problems involving distance between two points and midpoint of a line segment on the Cartesian coordinate plane.
<b>Measurement and Geometry (MG)</b>	2. volume of pyramids (other than square and rectangular pyramids), cones, and spheres. 3. the Pythagorean Theorem. 4. triangle inequality theorems.	4. explore inductively the volume of pyramids other than square and rectangular pyramids. 5. find the volume of pyramids other than square and rectangular pyramids. 6. solve problems involving volume of pyramids. 7. explore inductively the volumes of cones and spheres, leading to their formulas. 8. find the volumes of cones and spheres. 9. solve problems involving the volume of cones and spheres. 10. apply the Pythagorean Theorem in finding the missing side of a right triangle, and its converse in classifying triangles. 11. apply the triangle inequality theorems to establish results for angles and sides in triangles.
<b>Number and Algebra (NA)</b>	5. earning money, profit and loss, ‘best buys’, buying on terms.	12. solve financial problems involving: <ol style="list-style-type: none"> <li>earning money,</li> <li>profit and loss,</li> <li>buying amounts of products that represent the best value (‘best buys’), and</li> <li>buying on terms (‘instalment plan’).</li> </ol>

**Performance Standards**

*By the end of the quarter, the learners are able to ...*

- plot points, find the distance between two points, and find the midpoint of line segments, on the Cartesian coordinate plane. (NA)
- finds the volume of pyramids other than square and rectangular pyramids, and the volumes of cones and spheres. (MG)
- use the Pythagorean theorem to find sides in right triangles and its converse to classify triangles. (MG)
- use the triangle inequality theorems to establish results for angles and sides in triangles. (MG)
- solve financial problems involving earning money, profit and loss, “best buys,” and buying on terms. (NA)

**GRADE 8 – QUARTER 3**

<b>CONTENT DOMAIN</b>	<b>CONTENT STANDARDS</b> <i>The learners demonstrate knowledge and understanding of...</i>	<b>LEARNING COMPETENCIES</b> <i>The learners...</i>
<b>Number and Algebra (NA)</b>	<ol style="list-style-type: none"> <li>1. linear equations in one variable.</li> <li>2. linear inequalities in one variable and their graphs.</li> <li>3. linear equations in two variables and their graphs.</li> <li>4. systems of linear equations in two variables.</li> <li>5. linear inequalities in two variables.</li> </ol>	<ol style="list-style-type: none"> <li>1. solve linear equations in one variable.</li> <li>2. solve problems (e.g., number problems, geometry problems, and money problems) involving linear equations in one variable.</li> <li>3. solve linear inequalities in one variable.</li> <li>4. graph on a number line the solution of linear inequalities in one variable.</li> <li>5. solve problems involving linear inequalities in one variable.</li> <li>6. describe a linear equation in two variables and express its solution using ordered pairs.</li> <li>7. define and determine the slope and intercepts of a line.</li> <li>8. find the equation of a line given:               <ol style="list-style-type: none"> <li>a. two points,</li> <li>b. the slope and a point,</li> <li>c. the slope and y-intercept, and</li> <li>d. the x- and y- intercepts.</li> </ol> </li> <li>9. sketch the graph (straight line) of a linear equation given:               <ol style="list-style-type: none"> <li>a. any two points on the line,</li> <li>b. the x- and y- intercepts, and</li> <li>c. the slope and a point on the line.</li> </ol> </li> <li>10. define and illustrate a system of linear equations in two variables.</li> <li>11. solve a system of linear equations (with integer solutions) by graphing.</li> <li>12. classify the types of systems of linear equations based on the number of solutions.</li> <li>13. solve algebraically a system of linear equations in two variables.</li> <li>14. solve problems involving systems of linear equations in two variables.</li> <li>15. recognize and solve problems involving linear inequalities in two variables.</li> </ol>
<p><b>Performance Standards</b> <i>By the end of the quarter, the learners are able to ...</i></p> <ul style="list-style-type: none"> <li>• solve linear equations and linear inequalities in one variable. (NA)</li> <li>• graph linear inequalities in one variable. (NA)</li> <li>• graph linear equations in two variables. (NA)</li> <li>• solve a system of linear equations graphically and algebraically. (NA)</li> <li>• use linear inequalities in two variables in the solution of problems. (NA)</li> </ul>		

**GRADE 8 – QUARTER 4**

<b>CONTENT DOMAIN</b>	<b>CONTENT STANDARDS</b> <i>The learners demonstrate knowledge and understanding of...</i>	<b>LEARNING COMPETENCIES</b> <i>The learners...</i>
<b>Data and Probability (D/P)</b>	<ol style="list-style-type: none"> <li>1. measures of variability for ungrouped data.</li> <li>2. interpretation and analysis of graphs from primary and secondary data.</li> <li>3. experimental and theoretical probability.</li> <li>4. the Fundamental Counting Principle.</li> </ol>	<ol style="list-style-type: none"> <li>1. calculate the measures of variability (range, mean deviation, and standard deviation) for ungrouped data.</li> <li>2. draw conclusions from statistical data using the measures of variability.</li> <li>3. investigate, interpret, and analyze graphs from primary data (e.g., examination scores).</li> <li>4. investigate, interpret, and analyze graphs from secondary data.</li> <li>5. differentiate theoretical from experimental probability by conducting an experiment or an investigation.</li> <li>6. describe the sample space of an experiment.</li> <li>7. use the Fundamental Counting Principle to determine the number of possible outcomes of an experiment.</li> <li>8. calculate the theoretical probability of a single event by listing all possible outcomes.</li> <li>9. describe probability as a measure of the chance of an event occurring.</li> <li>10. calculate the probability of simple combined events by listing, or by possibility diagrams or tree diagrams.</li> <li>11. solve problems involving experimental probability and/or theoretical probability using the Fundamental Counting Principle.</li> </ol>
<p><b>Performance Standards</b></p> <p><i>By the end of the quarter, the learners are able to ...</i></p> <ul style="list-style-type: none"> <li>• calculate measures of variability for ungrouped data. (DP)</li> <li>• interpret and analyze graphs from primary and secondary data. (DP)</li> <li>• determine the number of possible outcomes of an experiment using the Fundamental Counting Principle. (DP)</li> <li>• calculate the probability of a single event and the probability of simple combined events. (DP)</li> </ul>		