**GRADE 9 RATIONALISED MATHEMATICS SCHEMES OF WORK - MENTOR**

**TEACHERS NAME……………………………. SCHOOL……………… YEAR…………….**

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| **Wk** | **LSN** | **strand** | **Sub-strand** | **Specific Learning Outcomes** | **Key Inquiry**  **Question(s)** | **Learning Experiences** | **Learning Resources** | **Assessment**  **Methods** | **Refl** |
| **1** | **1** | **NUMBERS** | Integers | By the end of the lesson, the learner should be able to:   1. perform addition of Integers in different situations, 2. work out addition of Integers in different situations, 3. appreciate the use of integers in real-life situations. | 1. How do we | The learner is guided to: | Number lines, games | Written test |  |
|  |  |  | Addition of | carry out | * discuss with peers and work out basic | on charts, number | QA |
|  |  |  | integers | operations of | operations on integers using number | cards, | Homework |
|  |  |  |  | integers in | cards and charts, | Mentor Maths Grd 9 | Class activities |
|  |  |  |  | real-life | * play games involving numbers and | T.G Pg.1-2 | Rubrics |
|  |  |  |  | situations? | operations by picking integers and | Mentor Maths Grd 9 |  |
|  |  |  |  | 2. How do we | performing all basic operations, | P.B Pg.1-2 |  |
|  |  |  |  | apply integers |  |  |  |
|  |  |  |  | in daily |  |  |  |
|  |  |  |  | activities? |  |  |  |
|  | **2** | **NUMBERS** | Subtraction | By the end of the lesson, the learner should be able to:   1. perform Subtraction of Integers in different situations, 2. work out subtraction of Integers in different situations, 3. appreciate the use of integers in real-life situations. | 1. How do we | The learner is guided to: | Number lines, games | Written test |  |
|  | of integers | carry out | * discuss with peers and work out basic | on charts, number | QA |
|  |  | operations of | operations on integers using number | cards, | Homework |
|  |  | integers in | cards and charts, | Mentor Maths Grd 9 | Class activities |
|  |  | real-life | * play games involving numbers and | T.G Pg.2-3 | Rubrics |
|  |  | situations? | operations by picking integers and | Mentor Maths Grd 9 |  |
|  |  | 2. How do we | performing all basic operations, | P.B Pg.2-3 |  |
|  |  | apply integers |  |  |  |
|  |  | in daily |  |  |  |
|  |  | activities? |  |  |  |
|  | **3** | **NUMBERS** | Multiplicatio | By the end of the lesson, the learner should be able to:   1. perform multiplication of Integers in different situations, 2. work out multiplication of Integers in different situations, 3. appreciate the use of integers in real-life situations. | 1. How do we | The learner is guided to: | Number lines, games | Written test |  |
|  | n of integers | carry out | * discuss with peers and work out basic | on charts, number | QA |
|  |  | operations of | operations on integers using number | cards, | Homework |
|  |  | integers in | cards and charts, | Mentor Maths Grd 9 | Class activities |
|  |  | real-life | * play games involving numbers and | T.G Pg.3 | Rubrics |
|  |  | situations? | operations by picking integers and | Mentor Maths Grd 9 |  |
|  |  |  | performing all basic operations, | P.B Pg.3-4 |  |

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|  | **4** | **NUMBERS** | Division on integers | By the end of the lesson, the learner should be able to:  a) perform division of Integers in different situations,   1. work out division of Integers in different situations, 2. appreciate the use of integers in real-life situations. | How do we carry out operations of integers in real-life situations? | The learner is guided to:   * discuss with peers and work out basic operations on integers using number cards and charts, * play games involving numbers and operations by picking integers and performing all basic operations, | Number lines, games on charts, number cards,  Mentor Maths Grd 9  T.G Pg.4  Mentor Maths Grd 9  P.B Pg.5-6 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **NUMBERS** | Combined operation of integers | By the end of the lesson, the learner should be able to:   1. work out combined operations on Integers in different situations, 2. apply Integers to real life situations, 3. appreciate the use of integers   in real-life situations. | How do we carry out operations of integers in real-life situations? | The learner is guided to:   * work out combined operations of integers in the correct order, | Number lines, games on charts, number cards,  Mentor Maths Grd 9  T.G Pg.5-6  Mentor Maths Grd 9  P.B Pg.6-7 | Written test QA  Homework Class activities Rubrics |  |
| **2** | **1** | **NUMBERS** | Combined operation of integers | By the end of the lesson, the learner should be able to:   1. work out combined operations on Integers in different situations, 2. apply Integers to real life situations, 3. appreciate the use of integers in real-life situations. | 1. How do we carry out operations of integers in real-life situations? 2. How do we apply integers in daily   activities? | The learner is guided to:   * carry out activities such as reading temperature changes in a thermometer and discussing with peers how   to record it. Consider temperatures below zero points and consider cases of use of integers in real life,   * play creative games that involve integers. | Number lines, games on charts, number cards,  Mentor Maths Grd 9  T.G Pg.5-6  Mentor Maths Grd 9  P.B Pg.6-7 | Written test QA  Homework Class activities Rubrics |  |
|  | **2** | **Cubes and cube roots** | Cubes of numbers by multiplicatio n | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cubes of numbers by multiplication. 2. work out cubes of numbers by multiplication in real-life situations, 3. apply cubes in real-life situations. | How do we work out the cubes of numbers? | The learner is guided to:   * use stacks of cubes to demonstrate the concept of cube and cube roots, * demonstrate stacking of cubes, | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.7-8  Mentor Maths Grd 9  P.B Pg.9-10 | Written test QA  Homework Class activities Rubrics |  |

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|  | **3** | **Cubes and cube roots** | Cubes of numbers from mathematica l tables | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cubes of numbers from mathematical tables. 2. determine cubes of numbers from mathematical tables in different situations, 3. apply cubes in real-life situations. | How do we work out the cubes of numbers? | The learner is guided to:   * use stacks of cubes to demonstrate the concept of cube and cube roots, * demonstrate stacking of cubes, | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.8-10  Mentor Maths Grd 9  P.B Pg.11-12 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **Cubes and cube roots** | Cubes of numbers from calculator | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cubes of numbers from a calculator. 2. determine cubes of numbers from a calculator in different situations, 3. apply cubes in real-life situations. | How do we work out the cubes of numbers? | The learner is guided to:   * use stacks of cubes to demonstrate the concept of cube and cube roots, * demonstrate stacking of cubes, | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.9-10  Mentor Maths Grd 9  P.B Pg.13-14 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **Cubes and cube roots** | Cube roots of numbers by factor method | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cube roots of numbers by factor method. 2. determine cube roots of numbers by factor method in different situations, 3. apply cubes and cube roots in   real-life situations. | How do we work out the cube roots of numbers? | The learner is guided to:   * discuss the volume of a cube, determine both the cube and cube root, and relate the two, | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.10  Mentor Maths Grd 9  P.B Pg.14-16 | Written test QA  Homework Class activities Rubrics |  |
| **3** | **1** | **Cubes and cube roots** | Cube roots of numbers from mathematica l tables | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cube roots of numbers from mathematical tables. 2. determine cube roots of numbers from mathematical tables in different situations, 3. apply cubes and cube roots in   real-life situations. | How do we work out the cube roots of numbers? | The learner is guided to:   * discuss the volume of a cube, determine both the cube and cube root, and relate the two, | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.11-12  Mentor Maths Grd 9  P.B Pg.16-17 | Written test QA  Homework Class activities Rubrics |  |

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|  | **2** | **Cubes and cube roots** | Cube roots of numbers using a calculator | By the end of the lesson, the learner should be able to:   1. Explain how to obtain cube roots of numbers using a calculator. 2. determine cube and cube roots of numbers using a calculator, 3. apply cubes and cube roots in   real-life situations. | Where do we apply cubes and  cube roots in real life situations? | The learner is guided to:   * read the cube of numbers from mathematical tables and relate it to cube roots, * use calculators to work out cube and cube roots of numbers. | Multiplication, cubes, and cube root tables. Mentor Maths Grd 9  T.G Pg.12-13  Mentor Maths Grd 9  P.B Pg.18 | Written test QA  Homework Class activities Rubrics |  |
|  | **3** | **Indices and Logarithms** | Expressing in index form | By the end of the lesson, the learner should be able to:   1. Identify the base. 2. express numbers in index form in different situations, 3. appreciate the use of indices and logarithms in real-life   situations. | How do we express numbers in powers? | The learner is guided to:   * discuss indices and identify the base, | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.14-15  Mentor Maths Grd 9  P.B Pg.20-021 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **Indices and Logarithms** | Laws of indices | By the end of the lesson, the learner should be able to:   1. state the different laws of indices. 2. generate the laws of Indices in different situations, 3. appreciate the use of indices and logarithms in real-life   situations. | How do we express numbers in powers? | The learner is guided to:   * discuss indices and identify the base, | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.15-17  Mentor Maths Grd 9  P.B Pg.21-26 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **Indices and Logarithms** | Laws of indices | By the end of the lesson, the learner should be able to:   1. list the laws of indices 2. apply the laws of indices in different situations, 3. appreciate the use of indices and logarithms in real-life   situations. | How do we express numbers in powers? | The learner is guided to:   * show the laws of indices using multiplication and division, | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.15-17  Mentor Maths Grd 9  P.B Pg.21-26 | Written test QA  Homework Class activities Rubrics |  |

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| **4** | **1** | **Indices and Logarithms** | Laws of indices | By the end of the lesson, the learner should be able to:   1. list the laws of indices 2. apply the laws of indices in different situations, 3. appreciate the use of indices and   logarithms in real-life situations. | How do we express numbers in powers? | The learner is guided to:   * show the laws of indices using multiplication and division, * use the laws of indices to work out indices, | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.15-17  Mentor Maths Grd 9  P.B Pg.21-26 | Written test QA  Homework Class activities Rubrics |  |
|  | **2** | **Indices and Logarithms** | Relating the powers of 10 to common logarithms | By the end of the lesson, the learner should be able to:   1. Discuss the powers of 10 to common algorithms. 2. relate powers of 10 to common logarithms in different situations, 3. appreciate the use of indices and   logarithms in real-life situations. | How do we express numbers in powers? | The learner is guided to:   * discuss and relate powers of 10 to common logarithms, * use IT to work out common logarithms or use mathematical tables. | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.18-19  Mentor Maths Grd 9  P.B Pg.27-28 | Written test QA  Homework Class activities Rubrics |  |
|  | **3** | **Indices and Logarithms** | Relating the powers of 10 to common logarithms | By the end of the lesson, the learner should be able to:   1. Discuss the powers of 10 to common algorithms. 2. relate powers of 10 to common logarithms in different situations, 3. appreciate the use of indices and   logarithms in real-life situations. | How do we express numbers in powers? | The learner is guided to:   * discuss and relate powers of 10 to common logarithms, * use IT to work out common logarithms or use mathematical tables. | Mathematical tables Calculators.  Mentor Maths Grd 9  T.G Pg.18-19  Mentor Maths Grd 9  P.B Pg.27-28 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **Compound Proportio ns and Rates of Work** | Dividing quantities into proportion parts | By the end of the lesson, the learner should be able to:   1. define the term proportions. 2. divide quantities into proportional parts in real-life situations, 3. appreciate the use of compound proportions and rates of work in real-life   situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * discuss and divide quantities into proportional parts and express them as a fraction, | Digital clocks Mentor Maths Grd 9  T.G Pg.20  Mentor Maths Grd 9  P.B Pg.30-32 | Written test QA  Homework Class activities Rubrics |  |

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|  | **5** | **Compound Proportio ns and Rates of Work** | Dividing quantities into proportion parts | By the end of the lesson, the learner should be able to:   1. Discuss how to divide quantities into proportional parts 2. divide quantities into proportional parts and express them as a fraction 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * discuss and divide quantities into proportional parts and express them as a fraction, | Digital clocks Mentor Maths Grd 9  T.G Pg.20  Mentor Maths Grd 9  P.B Pg.30-32 | Written test QA  Homework Class activities Rubrics |  |
| **5** | **1** | **Compound Proportio ns and Rates of Work** | Dividing quantities into proportion parts | By the end of the lesson, the learner should be able to:   1. Discuss how to divide quantities into proportional parts 2. divide quantities into proportional parts in daily life. 3. appreciate the use of compound   proportions and rates of work in real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * discuss and divide quantities into proportional parts and express them as a fraction, | Digital clocks Mentor Maths Grd 9  T.G Pg.20  Mentor Maths Grd 9  P.B Pg.30-32 | Written test QA  Homework Class activities Rubrics |  |
|  | **2** | **Compound Proportio ns and Rates of Work** | Relating different ratios | By the end of the lesson, the learner should be able to:   1. Define the term ratio. 2. relate different proportional parts in real-life situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * compare and write different ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.21-22  Mentor Maths Grd 9  P.B Pg.31-33 | Written test QA  Homework Class activities Rubrics |  |
|  | **3** | **Compound Proportio ns and Rates of Work** | Relating different ratios | By the end of the lesson, the learner should be able to:   1. discuss how to compare different ratios. 2. Compare different ratios in real life. 3. appreciate the use of compound   proportions and rates of work in real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * compare and write different ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.21-22  Mentor Maths Grd 9  P.B Pg.31-33 | Written test QA  Homework Class activities Rubrics |  |

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|  | **4** | **Compound Proportio ns and Rates of Work** | Relating different ratios | By the end of the lesson, the learner should be able to:   1. Describe how to write different ratios. 2. Write down different rations. 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * compare and write different ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.21-22  Mentor Maths Grd 9  P.B Pg.31-33 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **Compound Proportio ns and Rates of Work** | Compound proportions | By the end of the lesson, the learner should be able to:   1. explain the meaning of compound proportions 2. work out compound proportions using the ratio method in different situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * determine compound proportions using ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.22-23  Mentor Maths Grd 9  P.B Pg.33-35 | Written test QA  Homework Class activities Rubrics |  |
| **6** | **1** | **Compound Proportio ns and Rates of Work** | Compound proportions | By the end of the lesson, the learner should be able to:   1. explain the meaning of compound proportions 2. Determine compound proportions using the ratio method in different situations, 3. appreciate the use of compound   proportions and rates of work in real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * determine compound proportions using ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.22-23  Mentor Maths Grd 9  P.B Pg.33-35 | Written test QA  Homework Class activities Rubrics |  |
|  | **2** | **Compound Proportio ns and Rates of Work** | Compound proportions | By the end of the lesson, the learner should be able to:   1. explain the meaning of compound proportions 2. Apply compound proportions using the ratio method in different situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * determine compound proportions using ratios, | Digital clocks Mentor Maths Grd 9  T.G Pg.22-23  Mentor Maths Grd 9  P.B Pg.33-35 | Written test QA  Homework Class activities Rubrics |  |

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|  | **3** | **Compound Proportio ns and Rates of Work** | Rates of work | By the end of the lesson, the learner should be able to:   1. Give reasons why we work fast. 2. calculate rates of work in real-life situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * work out rates of work, * play games on rates of work using IT devices. | Digital clocks Mentor Maths Grd 9  T.G Pg.23-24  Mentor Maths Grd 9  P.B Pg.35-36 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **Compound Proportio ns and Rates of Work** | Rates of work | By the end of the lesson, the learner should be able to:   1. Give reasons why we work fast. 2. calculate rates of work in real- life situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * work out rates of work, * play games on rates of work using IT devices. | Digital clocks Mentor Maths Grd 9  T.G Pg.23-24  Mentor Maths Grd 9  P.B Pg.35-36 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **Compound Proportio ns and Rates of Work** | Rates of work | By the end of the lesson, the learner should be able to:   1. Give reasons why we work fast. 2. Role play rates of work in real- life situations, 3. appreciate the use of compound proportions and rates of work in   real-life situations. | 1. What are proportions? 2. Why do we work fast? | The learner is guided to:   * work out rates of work, * play games on rates of work using IT devices. | Digital clocks Mentor Maths Grd 9  T.G Pg.23-24  Mentor Maths Grd 9  P.B Pg.35-36 | Written test QA  Homework Class activities Rubrics |  |
| **7** | **1** | **ALGEBRA** | Identifying matrices | By the end of the lesson, the learner should be able to:   1. identify a matrix in different situations. 2. Use tables to identify matrices. 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss the use of tables such as football league tables, travel schedules, and shopping lists. Count the number of rows and columns in the table, which is a matrix. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.25  Mentor Maths Grd 9  P.B Pg.38-39 | Written test QA  Homework Class activities Rubrics |  |
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|  | **2** | **ALGEBRA** | Determining the order of matrices | By the end of the lesson, the learner should be able to:   1. identify a matrix in different situations. 2. determine the order of a matrix in different situations. 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * arrange items in rows and columns and discuss how to represent a matrix. * organise objects in rows and columns and give the order of the matrix in terms of rows and columns (row x column). | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.26  Mentor Maths Grd 9  P.B Pg.40-41 | Written test QA  Homework Class activities Rubrics |  |
|  | **3** | **ALGEBRA** | Determining the position of items in matrices | By the end of the lesson, the learner should be able to:   1. identify the position of matrices. 2. determine the position of items in a matrix in different situations. 3. reflect on the use of matrices   in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and identify the position of each item or element in terms of row and column. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.26-27  Mentor Maths Grd 9  P.B Pg.41-42 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **ALGEBRA** | Determining the position of items in matrices | By the end of the lesson, the learner should be able to:   1. identify the position of matrices. 2. determine the position of items in a matrix in different situations. 3. reflect on the use of matrices   in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and identify the position of each item or element in terms of row and column. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.26-27  Mentor Maths Grd 9  P.B Pg.41-42 | Written test QA  Homework Class activities Rubrics |  |
|  | **5** | **ALGEBRA** | Determining compatibility of matrices in addition | By the end of the lesson, the learner should be able to:   1. identify a compatible matrix in addition and subtraction. 2. determine the compatibility of matrices in addition 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and identify matrices that have an equal number of rows and an equal number of columns (same order) for compatibility in addition | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.28  Mentor Maths Grd 9  P.B Pg.42-43 | Written test QA  Homework Class activities Rubrics |  |

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| **8** | **HALF TERM** | | | | | | | | |
| **9** | **1** | **ALGEBRA** | Determining compatibility of matrices in subtraction | By the end of the lesson, the learner should be able to:   1. identify a compatible matrix in addition and subtraction. 2. determine the compatibility of matrices in subtraction. 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and identify matrices that have an equal number of rows and an equal number of columns (same   order) for compatibility in subtraction. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.28  Mentor Maths Grd 9  P.B Pg.42-43 | Written test QA  Homework Class activities Rubrics |  |
|  | **2** | **ALGEBRA** | Adding matrices | By the end of the lesson, the learner should be able to:   1. identify a how to add matrices. 2. carry out addition of matrices in real-life situations. 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and note what is represented by the rows and what is represented by the columns from two or more matrices to carry out addition. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.29  Mentor Maths Grd 9  P.B Pg.43-44 | Written test QA  Homework Class activities Rubrics |  |
|  | **3** | **ALGEBRA** | Subtracting matrices | By the end of the lesson, the learner should be able to:   1. identify a how to subtract matrices. 2. carry out subtract of matrices in real-life situations. 3. reflect on the use of matrices in real-life situations. | How do we use matrices in real-life situations? | The learner is guided to;   * discuss and note what is represented by the rows and what is represented by the columns from two or more matrices to carry out subtract. | Information from different sources on the arrangement of items in rows and columns.  Mentor Maths Grd 9  T.G Pg.30-31  Mentor Maths Grd 9  P.B Pg.45-46 | Written test QA  Homework Class activities Rubrics |  |
|  | **4** | **Equations of Straight Lines** | Identifying the gradient in real life situation | By the end of the lesson, the learner should be able to:   1. identify the gradient in real-life situations. 2. determine the gradient of a line from two known points. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * discuss steepness concerning gradient from the immediate environment. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.32-33  Mentor Maths Grd 9  P.B Pg.48-49 | Written test QA  Homework Class activities Rubrics  Oral questions |  |

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| **Wk** | **LSN** | **strand** | **Sub-strand** | **Specific Learning Outcomes** | **Key Inquiry**  **Question(s)** | **Learning Experiences** | **Learning Resources** | **Assessment**  **Methods** | **Refl** |
|  | **5** | **Equations of Straight Lines** | Identifying the gradient in real life situation | By the end of the lesson, the learner should be able to:   1. identify the gradient in real-life situations. 2. determine the gradient of a line from two known points. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * incline a ladder at different positions on the wall to demonstrate change in steepness of gradient. Discuss and compare the positions where the ladder is steeper. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.32-33  Mentor Maths Grd 9  P.B Pg.48-49 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
| **10** | **1** | **Equations of Straight Lines** | Identifying the gradient in real life situation | By the end of the lesson, the learner should be able to:   1. identify the gradient in real-life situations. 2. determine the gradient of a line from two known points. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * observe and climb up and down places such as the stairs or hills and relate to gradients. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.32-33  Mentor Maths Grd 9  P.B Pg.48-49 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **2** | **Equations of Straight Lines** | Equation of a straight line given two points | By the end of the lesson, the learner should be able to:   1. Explain the equation of a straight line. 2. determine the equation of a straight line given two points. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * Determine the equation of a straight line given two points. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.34  Mentor Maths Grd 9  P.B Pg.55-56 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **3** | **Equations of Straight Lines** | Equation of a straight line given two points | By the end of the lesson, the learner should be able to:   1. Explain the equation of a straight line. 2. Work out the equation of a straight line given two points. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * work out the equation of a straight line given two points. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.34  Mentor Maths Grd 9  P.B Pg.55-56 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
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| **Wk** | **LSN** | **strand** | **Sub-strand** | **Specific Learning Outcomes** | **Key Inquiry**  **Question(s)** | **Learning Experiences** | **Learning Resources** | **Assessment**  **Methods** | **Refl** |
|  | **4** | **Equations of Straight Lines** | Equation of a straight line from a known point | By the end of the lesson, the learner should be able to:   1. Explain the equation of a straight line from a known point. 2. determine the equation of a straight line from a known point. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * determine the equation of a straight line from given a point | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.35  Mentor Maths Grd 9  P.B Pg.57 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **5** | **Equations of Straight Lines** | Equation of a straight line from a gradient | By the end of the lesson, the learner should be able to:   1. Explain the equation of a straight line a gradient 2. determine the equation of a straight line from a gradient. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * Determine the equation of a straight line from a gradient. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.35  Mentor Maths Grd 9  P.B Pg.57 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
| **11** | **1** | **Equations of Straight Lines** | Equation of a straight line from a gradient | By the end of the lesson, the learner should be able to:   1. Explain the equation of a straight line a gradient 2. Work out the equation of a straight line from a gradient. 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * work out the equation of a straight line from a gradient. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.35  Mentor Maths Grd 9  P.B Pg.57 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **2** | **Equations of Straight Lines** | Expressing equation of a straight line in the form of y=mx+c | By the end of the lesson, the learner should be able to:   1. Explain how to write the equation of a straight line in the form of y=mx+c 2. express the equation of a straight line in the form of 𝑦 = 𝑚𝑥 +𝑐 3. recognize the use of equations of   straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * discuss and rewrite the equation of a straight line as 𝑦 = 𝑚𝑥 + 𝑐. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.36  Mentor Maths Grd 9  P.B Pg.58 | Written test QA  Homework Class activities Rubrics  Oral questions |  |

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| **Wk** | **LSN** | **strand** | **Sub-strand** | **Specific Learning Outcomes** | **Key Inquiry**  **Question(s)** | **Learning Experiences** | **Learning Resources** | **Assessment**  **Methods** | **Refl** |
|  | **3** | **Equations of Straight Lines** | Expressing equation of a straight line in the form of y=mx+c | By the end of the lesson, the learner should be able to:   1. Explain how to write the equation of a straight line in the form of y=mx+c 2. express the equation of a straight line in the form of 𝑦 =𝑚𝑥 + 𝑐 3. recognize the use of equations of   straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * discuss and rewrite the equation of a straight line as 𝑦 = 𝑚𝑥 + 𝑐. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.36  Mentor Maths Grd 9  P.B Pg.58 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **4** | **Equations of Straight Lines** | Expressing equation of a straight line in the form of y=mx+c | By the end of the lesson, the learner should be able to:   1. Explain how to write the equation of a straight line in the form of y=mx+c 2. express the equation of a straight line in the form of 𝑦 =𝑚𝑥 + 𝑐 3. recognize the use of equations of   straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * discuss and rewrite the equation of a straight line as 𝑦 = 𝑚𝑥 + 𝑐. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.36  Mentor Maths Grd 9  P.B Pg.58 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **5** | **Equations of Straight Lines** | Interpreting the equation y=mx+c | By the end of the lesson, the learner should be able to:   1. Explain the variable and constants in the equation. 2. interpret the equation 𝑦 = 𝑚𝑥 +𝑐 in different situations. 3. recognize the use of equations of   straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * Explain the variables and constants in the equation. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.37  Mentor Maths Grd 9  P.B Pg.59-61 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
| **12** | **1** | **Equations of Straight Lines** | Interpreting the equation y=mx+c | By the end of the lesson, the learner should be able to:   1. Explain the variable and constants in the equation. 2. interpret the equation 𝑦 = 𝑚𝑥 +𝑐 in different situations. 3. recognize the use of equations of   straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * Explain the variables and constants in the equation. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.37  Mentor Maths Grd 9  P.B Pg.59-61 | Written test QA  Homework Class activities Rubrics  Oral questions |  |

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| **Wk** | **LSN** | **strand** | **Sub-strand** | **Specific Learning Outcomes** | **Key Inquiry**  **Question(s)** | **Learning Experiences** | **Learning Resources** | **Assessment**  **Methods** | **Refl** |
|  | **2** | **Equations of Straight Lines** | x- and y- intercept of a straight line | By the end of the lesson, the learner should be able to:   1. Explain how to find x and y intercepts of a straight line. 2. determine the x and y intercepts of a straight line 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * Determine the value of x when y is zero and the value of y when x is zero. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.38-39  Mentor Maths Grd 9  P.B Pg.61-63 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **3** | **Equations of Straight Lines** | x- and y- intercept of a straight line | By the end of the lesson, the learner should be able to:   1. Explain how to find x and y intercepts of a straight line. 2. Work out the x and y intercepts of a straight line 3. recognize the use of equations   of straight lines in real life. | How do we use gradient or steepness in our daily activities? | The learner is guided to;   * work out the value of x when y is zero and the value of y when x is zero. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.38-39  Mentor Maths Grd 9  P.B Pg.61-63 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **4** | **Linear Inequalities** | Solving linear inequalities in one unknown | By the end of the lesson, the learner should be able to:   1. Discuss ways of sharing resources equally. 2. solve linear inequalities in one unknown. 3. reflect on the use of linear   inequalities in real life. | How do we use linear inequalities in real-life situations? | The learner is guided to;   * discuss why sometimes resources are shared unequally. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.40  Mentor Maths Grd 9  P.B Pg.65-67 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
|  | **5** | **Linear Inequalities** | Solving linear inequalities in one unknown | By the end of the lesson, the learner should be able to:   1. Discuss ways of sharing resources equally. 2. solve linear inequalities in one unknown. 3. reflect on the use of linear   inequalities in real life. | How do we use linear inequalities in real-life situations? | The learner is guided to;  .   * discuss simple inequality statements, form and work out the inequalities in one unknown. | Rulers, drawing tools, graph papers/ squared books Mentor Maths Grd 9  T.G Pg.40  Mentor Maths Grd 9  P.B Pg.65-67 | Written test QA  Homework Class activities Rubrics  Oral questions |  |
| **13** | **END TERM ONE ASSESSMENT/CLOSING** | | | | | | | | |