**MATHEMATICS SCHEMES OF FORM 3**

**TERM 2**

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **T/L ACTIVITIES** | **T/L AIDS** | **REFERENCE** | **REMARKS** |
| 1 | **Opening and Revision** |
| 2 | 1 | Further Logarithms  | Further computation using logarithms  | By the end of the lesson, the learner should be able to: Solve problems involving logarithms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 95-96  |  |
| 2 | Further Logarithms  | Further computation using logarithms  | By the end of the lesson, the learner should be able to: Solve problems involving logarithms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 95-96  |  |
| 3 | Further Logarithms  | Further computation using logarithms  | By the end of the lesson, the learner should be able to: Solve problems involving logarithms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 95-96  |  |
| 4 | Further Logarithms  | Problem solving  | By the end of the lesson, the learner should be able to: Solve problems involving logarithms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 97  |  |
| 5 | Further Logarithms  | Problem solving  | By the end of the lesson, the learner should be able to: Solve problems involving logarithms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 97  |  |
| 6 | Commercial arithmetic  | Simple interestCompound interest  | By the end of the lesson, the learner should be able to: Calculate simple interestCalculate the compound interest  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 98-99  |  |
| 7 | Commercial arithmetic  | Appreciation  | By the end of the lesson, the learner should be able to: Calculate the appreciation value of items  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 108  |  |
| 3 | 1 | Commercial arithmetic  | Depreciation  | By the end of the lesson, the learner should be able to: Calculate the depreciation value of items  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 109  |  |
| 2 | Commercial arithmetic  | Hire purchase  | By the end of the lesson, the learner should be able to: Find the hire purchase  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 110-112  |  |
| 3 | Commercial arithmetic  | Income tax  | By the end of the lesson, the learner should be able to: Calculate the income tax  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 112-114  |  |
| 4 | Commercial arithmetic  | P.A.Y.E  | By the end of the lesson, the learner should be able to: Calculate the p.a.y.e  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 114-117  |  |
| 5 | Circles: Chords and tangents  | Length of an arc  | By the end of the lesson, the learner should be able to: Calculate the length of an arc  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 124-125  |  |
| 6 | Circles: Chords and tangents  | Chords  | By the end of the lesson, the learner should be able to: Calculate the length of a chord  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 126-128  |  |
| 7 | Circles: Chords and tangents  | Parallel chords  | By the end of the lesson, the learner should be able to: Calculate the perpendicular bisectorFind the value of parallel chords  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 129-131  |  |
| 4 | 1 | Circles: Chords and tangents  | Equal chords  | By the end of the lesson, the learner should be able to: Find the length of equal chords  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 131-132  |  |
| 2 | Circles: Chords and tangents  | Intersecting chords  | By the end of the lesson, the learner should be able to: Calculate the length of intersecting chords  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 132-135  |  |
| 3 | Circles: Chords and tangents  | Intersecting chords  | By the end of the lesson, the learner should be able to: Calculate the length of intersecting chords  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 135-139  |  |
| 4 | Circles: Chords and tangents  | Tangent to a circleTangent to a circle  | By the end of the lesson, the learner should be able to: Construct a tangent to a circleCalculate the length of tangentCalculate the angle between tangents  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 139-140  |  |
| 5 | Circles: Chords and tangents  | Properties of tangents to a circle from an external point  | By the end of the lesson, the learner should be able to: State the properties of tangents to a circle from an external point  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 142-144  |  |
| 6 | Circles: Chords and tangents  | Tangents to two circles  | By the end of the lesson, the learner should be able to: Calculate the tangents of direct common tangents  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 148-149  |  |
| 7 | Circles: Chords and tangents  | Tangents to two circles  | By the end of the lesson, the learner should be able to: Calculate the tangents of transverse common tangents  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 150-151  |  |
| 5 | 1 | Circles: Chords and tangents  | Contact of circles  | By the end of the lesson, the learner should be able to: Calculate the radii of contact circles  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 151-153  |  |
| 2 | Circles: Chords and tangents  | Contact of circles  | By the end of the lesson, the learner should be able to: Calculate the radii of contact circles  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 153-154  |  |
| 3 | Circles: Chords and tangents  | Problem solving  | By the end of the lesson, the learner should be able to: Solve problems involving chords, tangents and contact circles  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 154-157  |  |
| 4 | Circles: Chords and tangents  | Angle in alternate segment  | By the end of the lesson, the learner should be able to: Calculate the angles in alternate segments  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 157-160  |  |
| 5 | Circles: Chords and tangents  | Angle in alternate segment  | By the end of the lesson, the learner should be able to: Calculate the angles in alternate segments  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 160-161  |  |
| 6 | Circles: Chords and tangents  | Circumscribed circle  | By the end of the lesson, the learner should be able to: Construct circumscribed circles  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 165  |  |
| 7 | Circles: Chords and tangents  | Escribed circles  | By the end of the lesson, the learner should be able to: Construct escribed circles  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 165-166  |  |
| 6 | 1 | Circles: Chords and tangents  | CentroidOrthocenter  | By the end of the lesson, the learner should be able to: Construct centroid Construct orthocenter  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 166  |  |
| 2 | Matrices  | Matrix representation and order of matrix  | By the end of the lesson, the learner should be able to: Represent matrixState the order of a matrix  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 168-170  |  |
| 3 | Matrices  | Addition of matrix  | By the end of the lesson, the learner should be able to: Add matrices  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 170  |  |
| 4 | Matrices  | Subtraction of matrices  | By the end of the lesson, the learner should be able to: Subtract matrices  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 171  |  |
| 5 | Matrices  | Combined addition and subtraction of matrices  | By the end of the lesson, the learner should be able to: Perform the combined operation on matrices  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 171-174  |  |
| 6 | Matrices  | Matrix multiplication  | By the end of the lesson, the learner should be able to: Multiply matrices  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 174-175  |  |
| 7 | Matrices  | Matrix multiplication  | By the end of the lesson, the learner should be able to: Multiply matrices  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 176-179  |  |
| 7 | 1 | Matrices  | Identity matrix  | By the end of the lesson, the learner should be able to: Find the identity matrix  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 182-183  |  |
| 2 | Matrices  | Determinant of a 2  | By the end of the lesson, the learner should be able to: Find the determinant of a 2  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 183  |  |
| 3 | Matrices  | Inverse of a 2  | By the end of the lesson, the learner should be able to: Calculate the inverse of a 2  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 183-185  |  |
| 4 | Matrices  | Inverse of a 2  | By the end of the lesson, the learner should be able to: Calculate the inverse of a 2  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 186-187  |  |
| 5 | Matrices  | Solutions of simultaneous equations by matrix method  | By the end of the lesson, the learner should be able to: Solve simultaneous equations by matrix method  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 188-190  |  |
| 6 | Matrices  | Solutions of simultaneous equations by matrix methodProblem solving  | By the end of the lesson, the learner should be able to: Solve simultaneous equations by matrix methodCalculate the inverse of a matrix  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 188-190  |  |
| 7 | Formulae and variations  | Formulae  | By the end of the lesson, the learner should be able to: Make subject of the given formula  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 191-193  |  |
| 8 | **Mid Term Exams and Break** |
| 9 | 1 | Formulae and variations  | Direct variation  | By the end of the lesson, the learner should be able to: Solve problems involving direct variations  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 194-196  |  |
| 2 | Formulae and variations  | Inverse variation  | By the end of the lesson, the learner should be able to: Solve problems involving inverse variations  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 197-200  |  |
| 3 | Formulae and variations  | Partial variation  | By the end of the lesson, the learner should be able to: Solve problems involving partial variations  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 201-203  |  |
| 4 | Formulae and variations  | Joint variation  | By the end of the lesson, the learner should be able to: Solve problems involving join variations  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 204-205  |  |
| 5 | Formulae and variations  | Joint variation  | By the end of the lesson, the learner should be able to: Solve problems involving join variations  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 206  |  |
| 6 | Sequences and series  | Sequences  | By the end of the lesson, the learner should be able to: Find the next terms  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 207-208  |  |
| 7 | Sequences and series  | Arithmetic sequences  | By the end of the lesson, the learner should be able to: Find the nth term of a given arithmetic sequence  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 209-210  |  |
| 10 | 1 | Sequences and series  | Geometric sequence  | By the end of the lesson, the learner should be able to: Find the nth term of a given geometric sequence  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 211-213  |  |
| 2 | Sequences and series  | Arithmetic series  | By the end of the lesson, the learner should be able to: Find the nth term of a given arithmetic series  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 214-215  |  |
| 3 | Sequences and series  | Geometric series  | By the end of the lesson, the learner should be able to: Find the nth term of a given geometric series  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 216-219  |  |
| 4 | Sequences and seriesVectors II  | Geometric seriesCoordinates in two dimensions  | By the end of the lesson, the learner should be able to: Find the nth term of a given geometric seriesIdentify the coordinates of appoint in two dimensions  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 216-219  |  |
| 5 | Vectors II  | Coordinates in three dimensions  | By the end of the lesson, the learner should be able to: Identify the coordinates of appoint in three dimensions  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 222  |  |
| 6 | Vectors II  | Column vectors  | By the end of the lesson, the learner should be able to: Find a displacement and represent it in column vector  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 223-224  |  |
| 7 | Vectors II  | Position vector  | By the end of the lesson, the learner should be able to: Calculate the position vector  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 224  |  |
| 11 | 1 | Vectors II  | Unit vectors  | By the end of the lesson, the learner should be able to: Express vectors in terms of unit vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 226-228  |  |
| 2 | Vectors II  | Unit vectors  | By the end of the lesson, the learner should be able to: Express vectors in terms of unit vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 226-228  |  |
| 3 | Vectors II  | Magnitude of a vector in three dimensions  | By the end of the lesson, the learner should be able to: Calculate the magnitude of a vector in three dimensions  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 229-230  |  |
| 4 | Vectors II  | Parallel vectors  | By the end of the lesson, the learner should be able to: Identify parallel vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 231-232  |  |
| 5 | Vectors II  | Collinear points  | By the end of the lesson, the learner should be able to: Show that points are collinear  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 232  |  |
| 6 | Vectors II  | Collinear points  | By the end of the lesson, the learner should be able to: Show that points are collinear  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 233-234  |  |
| 7 | Vectors II  | Proportion division of a line  | By the end of the lesson, the learner should be able to: Divide a line internally in the given ratio  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 237-238  |  |
| 12 | 1 | Vectors II  | Proportion division of a lineProportion division of a line  | By the end of the lesson, the learner should be able to: Divide a line externally in the given ratioDivide a line internally and externally in the given ratio  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses  | KLB MathematicsBook ThreePg 238  |  |
| 2 | Vectors II  | Ratio theorem  | By the end of the lesson, the learner should be able to: Express position vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 240  |  |
| 3 | Vectors II  | Ratio theorem  | By the end of the lesson, the learner should be able to: Find the position vector  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 242  |  |
| 4 | Vectors II  | Mid-point  | By the end of the lesson, the learner should be able to: Find the mid-points of the given vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 243  |  |
| 5 | Vectors II  | Ratio theorem  | By the end of the lesson, the learner should be able to: Use ratio theorem to find the given vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 244-245  |  |
| 6 | Vectors II  | Ratio theorem  | By the end of the lesson, the learner should be able to: Use ratio theorem to find the given vectors  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 246-248  |  |
| 7 | Vectors II  | Applications of vectors  | By the end of the lesson, the learner should be able to: Use vectors to show the diagonals of a parallelogram  | DiscussionsSolving Demonstrating Explaining  | CalculatorsProtractorRulerPair of compasses | KLB MathematicsBook ThreePg 248-249  |  |
| 13-14 | **End Term Exams and closing** |