SCHEME OF WORK MATHEMATICS FORM 1 2022

TERM II ENDARASHA BOYS

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| **WK** | **LSN** | **TOPIC** | **SUB-TOPIC** | **OBJECTIVES** | **T/L ACTIVITIES** | **T/L AIDS** | **REFERENCE** | **REMARKS** |
| **2** | 1 | Squares And Square Roots | Squares of numbers greater than 10 Squares of numbers less than 1 | By the end of the lesson, the learner should be able to:Find the square of numbers greater than 10 from the mathematical table.Find the squares of numbers less than 1 from mathematical tables | Discussion ExercisesReading mathematical tablesIllustrations Discussions Doing exercises Solving puzzles | Mathematical tables Multiplication tables Calculators (Scientific) | KLB book 1 pages 75 Discovering secondary mathematics book 1 page 45Advancing mathematics book 1 page 63 Secondary mathematics KIE book 1 page 97 Golden tips (KCSE) mathematics page 61 |  |
| 2 | Squares And Square Roots | Finding square roots by factorization | By the end of the lesson, the learner should be able to:Find square roots of numbers by factorization | Discussions Factorizing numbers Doing short tests Demonstrations Dividing numbers | Mathematical tables Multiplication tables | Discovering secondary mathematics book 1 page 46-47Secondary mathematics KLB book 1 pages 77 Advancing mathematics book 1 page 64-65 Secondary mathematics KIE book 1 page 99-101 Golden tips (KCSE) mathematics page 62 |  |
| 3 | Squares And Square Roots | Square root tables | By the end of the lesson, the learner should be able to:Read the square root tableRead square roots of numbers 1< A <10 from mathematical tables | Guiding the learner to read square roots from tablesDiscussions Doing exercises | Mathematical tables Multiplication tables | Discovering secondary mathematics book 1 pages 47-48KLB book 1 page 78 Advancing mathematics book 1 page 66 Secondary mathematics KIE book 1 page 102-103 |  |
| 4 | Squares And Square Roots Angles | Square roots of numbers less than one and greater than 100 Measuring and drawing angles | By the end of the lesson, the learner should be able to:Get the Square roots of numbers less than one and greater than 100 form their mathematical tablesMeasure and draw an angle using a protractor | Discussions Mathematical table Doing exercises Demonstration Measuring angles Illustrations | Mathematical tables Multiplication tables ProtractorRulerModels of figures Charts | Discovering secondary mathematics book 1 pages 48-49KLB book 1 page 78 Advancing mathematics book 1 page 67-68 Secondary mathematics KIE book 1 page 102-103 |  |
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|  | 5 | Angles | Types of angles | By the end of the lesson, the learner should be able to:Name and draw different types of angles | Discussions Drawing angles Measuring angles Naming angles | Protractor RulerModels of triangles, rectangles etc Charts | Discovering secondary mathematics book 1 pages 51-52Secondary mathematics KLB students book 1 page 197-198 Advancing mathematics book 1 page 175-177 Secondary mathematics KIE book 1 page 62-64 |  |
| 6 | Angles | Angles on a straight line, vertically opposite angles and angles at a point | By the end of the lesson, the learner should be able to:Identify and draw angles on a line vertically opposite angles and angles at a point | Discussions Drawing angles Doing exercises Naming angles | Protractor RulerModels of triangles, rectangles etc. | Discovering secondary mathematics book 1 pages 52-54Secondary mathematics KLB students book 1 page 200-201 Advancing mathematics book 1 page 177-179 Secondary mathematics KIE book 1 page 66-67 |  |
| **3** | 1 | Angles | Parallel lines corresponding alternate and interior angles | By the end of the lesson, the learner should be able to:Identify and draw parallel lines, corresponding alternate and interior angles | Discussions Drawing angles Measuring angles Identifying angles | Protractor RulerReal objects | Discovering secondary mathematics book 1 pages 55-57Secondary mathematics KLB students book 1 page 206-210 Advancing mathematics book 1 page 180-181 Secondary mathematics KIE book 1 page 70-72 |  |
| 2 | Polygons | Triangles | By the end of the lesson, the learner should be able to:Define a polygon and identify and draw different triangles. | Discussions Drawing triangles Measuring Angles Measuring lengths Definitions | Protractor RulerModels of different triangles | Discovering secondary mathematics book 1 pages 58-61Secondary mathematics KLB students book 1 page 211Advancing mathematics book 1 page 182-183 Secondary mathematics KIE book 1 page 75-76 |  |
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|  | 3 | Polygons | Interior and exterior angles of a polygons | By the end of the lesson, the learner should be able to:Identify and draw interior and exterior angles of a quadrilateral | DiscussionsDrawing quadrilaterals Measuring angles Measuring lengths Illustrations | Protractor Ruler StringsReal Objects | Discovering secondary mathematics book 1 pages 63-66Secondary mathematics KLB students book 1 page 212-213 Advancing mathematics book 1 page 182-183 Secondary mathematics KIE book 1 page 76-77 |  |
| 4 | Polygons | Quadrilaterals | By the end of the lesson, the learner should be able to:Identify and draw different quadrilaterals | DiscussionsDrawing quadrilaterals Measuring angles Measuring lengths | Protractor Ruler StringsReal Objects | Discovering secondary mathematics book 1 pages 60-63Secondary mathematics KLB students book 1 page 219-220 Advancing mathematics book 1 page 185-186 Secondary KIE book 1 page 82-83 |  |
| 5 | Length | Units of length | By the end of the lesson, the learner should be able to:State the units of measuring length and express length to a given significant figure | Discussions Definitions Rounding off Measuring lengths Solving problemsinvolving units of length | Tape measure Rulers StringsMeasuring instruments | Discovering secondary mathematics book 1 pages 67-68Secondary mathematics KLB students book 1 page 110Advancing mathematics book 1 page 100-101 Secondary mathematics KIE book 1 page 106 |  |
| 6 | Length | Conversion of units of length | By the end of the lesson, the learner should be able to:Convert the units of length | Discussions Conversions of units of lengthMeasuring length in different units Solving problems | Tape measure Rulers StringsConversion charts for lengthReal objects | Discovering secondary mathematics book 1 pages 68-71Secondary mathematics KLB students book 1 page 110-112 Advancing mathematics book 1 page 100-101 Secondary mathematicsKIE book 1 page 107-108 |  |
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| **4** | 1 | Length | Perimeter of plain figures | By the end of the lesson, the learner should be able to:Find the perimeter of a plain figure | Discussions Measuring length Solving problems | Tape measure Rulers StringsConversion charts for lengthReal objects | Discovering secondary mathematics book 1 pages 71-73Secondary mathematics KLB students book 1 page 113-116 Advancing mathematics book 1 page 103-104 Secondary mathematicsKIE book 1 page 109-112 |  |
| 2 | Length | Circumference | By the end of the lesson, the learner should be able to:Find the circumference of a circle | Discussions Measuring length Solving problems on circumference Demonstrations | Circular objects Tape measure RulersStrings Conversion charts for length | Discovering secondary mathematics book 1 pages 73-76Secondary mathematics KLB students book 1 page 116-119 Advancing mathematics book 1 page 105-106 Secondary mathematicsKIE book 1 page 116-118 |  |
| 3 | Geometric Constructions | Construction of a perpendicular bisector of a line | By the end of the lesson, the learner should be able to:Use a pair of compasses and ruler only to construct a perpendicular bisector of a line | Discussions Construction of a perpendicular bisector of a lineDrawing shapes | Plane figures Geometrical sets Polygonal shapes RulerPair of compasses | Discovering secondary mathematics book 1 pages 77-78Secondary mathematics KLB students book 1 page 227Advancing mathematics book 1 page 197-198 Secondary KIE book 1 page 153 |  |
| 4 | Geometric Constructions | Construction of parallel lines | By the end of the lesson, the learner should be able to:Construct parallel lines using a ruler and a set square or at a given distance | Discussions Constructions Demonstrations Measuring angles | Set squares RulerPair of compass | Discovering secondary mathematics book 1 pages 78-79Secondary mathematics KLB students book 1 page 235Advancing mathematics book 1 page 202 Secondary mathematics KIE book 1 page 154-155 |  |
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|  | 5 | Geometric Constructions | Dividing a line proportionally | By the end of the lesson, the learner should be able to:Divide a line proportionally using a ruler and a set square | Discussions Dividing lines proportionallyDrawing straight lines Measuring angles and lengths | Set squares RulerPair of compass | Discovering secondary mathematics book 1 pages 79-80Secondary mathematics KLB students book 1 page 236Advancing mathematics book 1 page 203 Secondary mathematics KIE book 1 page 156 |  |
| 6 | Geometric Constructions | Reproducing and bisecting angles | By the end of the lesson, the learner should be able to:Reproduce and bisect an angle | Discussions Demonstrations Illustrations Drawing angles | RulerPair of compass | Discovering secondary mathematics book 1 page80Secondary mathematics KLB students book 1 page 233Advancing mathematics book 1 page 202 Secondary mathematics KIE book 1 page 149-150 |  |
| **5** | MID TERM EXAMS AND BREAK |
| **6** | 1 | Geometric Constructions | Constructing angles | By the end of the lesson, the learner should be able to:Construct angles at 60 degrees | Discussions Measuring angles Bisecting angles Constructing angles Solving problems on construction of angles | RulerPair of compass ProtractorReal objects | Discovering secondary mathematics book 1 page 80-82Secondary mathematics KLB students book 1 page 233-234 Advancing mathematics book 1 page 201-202 Secondary mathematics KIE book 1 page 149-150-151 |  |
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|  | 2 | Geometric Constructions | Constructing polygons | By the end of the lesson, the learner should be able to:Construct regular and irregular polygons | Discussions Measuring angles and lengthsBisecting angles Constructing angles | RulerPair of compass ProtractorReal objects | Discovering secondary mathematics book 1 page 83-84Secondary mathematics KLB students book 1 page 237-240 Advancing mathematics book 1 page 207-208 Secondary KIE book 1 page 158-159 |  |
| 3 | Algebraic Expressions | Representing numbers by letters | By the end of the lesson, the learner should be able to:Use letters to represent numbers | Discussions Doing exercises Guessing Demonstrations | Counters Groups of items | Discovering secondary mathematics book 1 page 85-86Secondary mathematics KLB students book 1 page 80-81Advancing mathematics book 1 page 73-74 Secondary mathematics KIE book 1 page 47-48 |  |
| 4 | Algebraic Expressions | Simplifying algebraic expressions | By the end of the lesson, the learner should be able to:Simplify algebraic expressions | Discussions Doing exercisesGrouping items together Adding objects Multiplying and dividing | Counters Groups of items charts | Discovering secondary mathematics book 1 page 86-88Secondary mathematics KLB students book 1 page 82-84Advancing mathematics book 1 page 74-75 Secondary mathematics KIE book 1 page 49-51 |  |
| 5 | Algebraic Expressions | Multiplying algebraic expressions Dividing algebraic expressions | By the end of the lesson, the learner should be able to:Multiply algebraic expressions Divide algebraic expressions | Discussions Simplification of algebraic expressions Multiplying algebraic expressions Grouping like items Doing exercises factorization Grouping like items Puzzlesgames | Groups of unlike items Groups of like items | Discovering secondary mathematics book 1 page 87Secondary mathematics KLB students book 1 page 89Advancing mathematics book 1 page 75 Secondary mathematics KIE book 1 page 49-51 |  |
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|  | 6 | Algebraic Expressions | Use of brackets in algebraic expressions | By the end of the lesson, the learner should be able to:Use of brackets in algebraic expressions | Discussions Adding Subtracting Demonstrations Matching items DividingDoing exercises | Groups of like items/objects | Discovering secondary mathematics book 1 page 88-89Secondary mathematics KLB students book 1 page 85Advancing mathematics book 1 page 77 Secondary KIE book 1 page 52-53 |  |
| **7** | 1 | Algebraic Expressions | factorization in algebraic expressions | By the end of the lesson, the learner should be able to:Use factorization in algebraic expressions | Discussions Factorizing puzzles Adding SubstitutionsDoing exercises Playing games | Groups of like items/objects | Discovering secondary mathematics book 1 page 88-91Secondary mathematics KLB students book 1 page 90Advancing mathematics book 1 page 81-83 Secondary mathematics KIE book 1 page 57-58 |  |
| 2 | Algebraic Expressions | factorization in algebraic expressions | By the end of the lesson, the learner should be able to:Use factorization in algebraic expressions | Discussions Factorizing puzzles Adding SubstitutionsDoing exercises Playing games | Groups of like items/objects | Discovering secondary mathematics book 1 page 88-91Secondary mathematics KLB students book 1 page 90Advancing mathematics book 1 page 81-83 Secondary mathematics KIE book 1 page 57-58 |  |
| 3 | Algebraic Expressions | Substitution and factorization | By the end of the lesson, the learner should be able to:Substitute and factorize algebraic expressions | Discussions Dividing multiplying Adding Subtracting Solving puzzles Substitutions Doing exercises Playing games | Groups of like items/objects | Discovering secondary mathematics book 1 page 91-94Secondary mathematics KLB students book 1 page 91-92Advancing mathematics book 1 page 80& 84 Secondary mathematics KIE book 1 page 59-62 |  |
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|  | 4 | Linear Equations | Solving equations | By the end of the lesson, the learner should be able to:Solve linear equations in one unknown | Discussions Demonstrations Solving problems on linear equations Puzzles | Beam balance See ? saw Games | Secondary mathematics KLB students book 1 page 160-162 Advancing mathematics book 1 page 134 Secondary mathematicsKIE book 1 page 173-174 |  |
| 5 | Linear Equations | Forming linear equations | By the end of the lesson, the learner should be able to:Form linear equations | Discussions Forming linear equations Demonstrations Doing exercises | Beam balanceReal life experience | Secondary mathematics KLB students book 1 page 163-168 Advancing mathematics book 1 page 139 Secondary mathematicsKIE book 1 page 176-178 |  |
| 6 | Linear Equations | Simultaneous equations and forming simultaneous equations | By the end of the lesson, the learner should be able to:Solve simultaneous equations by substitution and elimination and form simultaneous equations | DiscussionsSolving simultaneous equations by substitution and eliminationForming simultaneous equationsPlaying games | Beam balanceReal life experience | Secondary mathematics KLB students book 1 page 168-169 Advancing mathematics book 1 page 137-138 Secondary mathematicsKIE book 1 page 178-180 |  |
| **8** | 1 | Coordinates And Graphs | The Cartesian plane | By the end of the lesson, the learner should be able to:Draw and label the Cartesian plane | DiscussionsLabeling the Cartesian planeWriting scaleDrawing the axes of the Cartesian plane Reading points from the Cartesian plane | Graph papers Square board Cartesian plane Typographical maps Ruler | Discovering secondary mathematics Book 1Pages 103-104 Secondary mathematics KLB book 1 pages 182-183Secondary mathematics KIE book 1 page 223-224 Advancing in mathematics book 1 pages 161-162 |  |
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|  | 2 | Coordinates And Graphs | Plotting graphs and linear graphs | By the end of the lesson, the learner should be able to:Plot points on a Cartesian planeRead points on linear graphs on the Cartesian plane | DiscussionsLabeling the Cartesian planeWriting scale Plotting points on the Cartesian planeReading points from the Cartesian plane Drawing axes of a Cartesian plane | Graph papers protractor Square boards Chalk boards Grid boardsTypographical maps Ruler | Discovering secondary mathematics Book 1Pages 1014-108 Secondary mathematics KLB book 1 pages 185-186Secondary mathematics KIE book 1 page 226 Advancing in mathematics book 1 pages 163-164 |  |
| 3 | Coordinates And Graphs | Plotting linear graphs and linear equations of lines | By the end of the lesson, the learner should be able to:Plot a linear graph Work out the equation of a line | DiscussionsLabeling the Cartesian planeWriting scale Plotting points on the Cartesian planeReading points from the Cartesian plane Drawing axes of a Cartesian plane | Graph papers protractor Square boards Creo boards Grid boardsTypographical maps | Discovering secondary mathematics Book 1Pages 108-111 Secondary mathematics KLB book 1 pages 185-186Secondary mathematics KIE book 1 page 226 Advancing in mathematics book 1 pages 165-166 |  |
| 4 | Coordinates And Graphs | Graphical solutions | By the end of the lesson, the learner should be able to:Solve simultaneous linear equations graphically | Discussions Writing scaleLabeling the Cartesian planeSolving linear equations graphicallyIllustrationsDrawing the axes of a Cartesian plane | Graph papers protractor Square boardsTypographical maps RulerGrid boards | Discovering secondary mathematics Book 1Pages 111-113 Secondary mathematics KLB book 1 pages 188-189Secondary mathematics KIE book 1 page 229-232 Advancing in mathematics book 1 pages 167-170 |  |
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|  | 5 | Area | Area of combined and conversion of units of area | By the end of the lesson, the learner should be able to:Define and work out area of combined rectangular shapes Convert units of area fron one form to another | Drawing rectangular shapesWorking out the area of rectanglesDiscussionsSolving problems on conversion of units of area | Regular flat surfaces Square paper Square boards Rectangular objects | Discovering secondary mathematics Book 1Pages 114-117 Secondary mathematics KLB book 1 pages 123-124Secondary mathematics KIE book 1 page 109 Advancing in mathematics book 1 pages 109 |  |
| 6 | Area | Area of a triangle and rectangle | By the end of the lesson, the learner should be able to:Calculate the area of a triangle and rectangle | Discussions Measuring lengthCalculating the area of a triangle | Triangular flat surfaces Square paperSquare boards Triangular objects | Discovering secondary mathematics Book 1Pages 117-118 Secondary mathematics KLB book 1 pages 124-125Secondary mathematics KIE book 1 page 110 Advancing in mathematics book 1 pages 109-110 |  |
| **9** | 1 | Area | Area of a parallelogram and trapezium | By the end of the lesson, the learner should be able to:Calculate the area of a Parallelogram trapezium | Discussions Measuring lengthCalculating the area of a parallelogram Calculating the area of a trapezium | Square board Trapezoidal objects Shapes with a shape of a parallelogram | Discovering secondary mathematics Book 1Pages 118-121 Secondary mathematics KLB book 1 pages 125-126Secondary mathematics KIE book 1 page 110-111 Advancing in mathematics book 1 pages 111-113 |  |
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|  | 2 | Area | Area of a parallelogram and trapezium | By the end of the lesson, the learner should be able to:Calculate the area of a Parallelogram trapezium | Discussions Measuring lengthCalculating the area of a parallelogram Calculating the area of a trapezium | Square board Trapezoidal objects Shapes with a shape of a parallelogram | Discovering secondary mathematics Book 1Pages 118-121 Secondary mathematics KLB book 1 pages 125-126Secondary mathematics KIE book 1 page 110-111 Advancing in mathematics book 1 pages 111-113 |  |
| 3 | Area | Area of a circle | By the end of the lesson, the learner should be able to:Calculate the area of a circle | Discussions Demonstrations Measuring the radius/diameter Calculating the area of a circle | Circular shapes Or objects Square paper Square board | Discovering secondary mathematics Book 1Pages 121-123 Secondary mathematics KLB book 1 pages 129-132Secondary mathematics KIE book 1 page 123-125 Advancing in mathematics book 1 pages 115 |  |
| 4 | Area | Area of irregular plane | By the end of the lesson, the learner should be able to:Work out the area of an irregular plane figure | Discussions Demonstrations Measuring length Estimating area Converting units of areas | Irregular objects/shapes Square paperSquare board | Discovering secondary mathematics Book 1Pages 123-124 Secondary mathematics KLB book 1 pages 111 Secondary mathematicsKIE book 1 page 115-116 Advancing in mathematics book 1 pages 141-142 |  |
| 5 | Area | Surface area of a cuboid | By the end of the lesson, the learner should be able to:Work out the surface area of a cuboid | Discussions Demonstrations Measuring length Estimating area Converting units of areas | Regular flat shapes Square paper Square board Model cubes and cuboids | Discovering secondary mathematics Book 1Pages 124-125 Secondary mathematics KLB book 1 pages 135 Secondary mathematics KIE book 1 page 130 Advancing inmathematics book 1 pages 118 |  |
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|  | 6 | Area | Surface area of a prism | By the end of the lesson, the learner should be able to:Work out the surface area of a prism | Discussions Demonstrations Measuring length Estimating area Converting units of areas | Regular cylinders and prismsSquare paper Square board Model of a prism | Discovering secondary mathematics Book 1Pages 125-126 Secondary mathematics KLB book 1 pages 135-136Secondary mathematics KIE book 1 page 131-132 Advancing in mathematics book 1 pages 118 |  |
| **10** | END OF TERM EXAMS AND SCHOOL CLOSING |