Madani Girls Schools – Mathematics (2023-2024) – Higher Schedule

2023/2024	AUTUMN		SPRING		SUMMER	
	HT1	HT2	HT3	HT4	HT5	HT6
Y 7	Area of study ➢ Number Key concepts Place Value / Order of Operations Whole Numbers (+/-/x/÷) / Worded Prob Decimal Calculations (+/-/x/÷) Types of Numbers / Negative Numbers Primes / Multiples / Factors Prime Factor Trees / LCM / HCF Assessment method ➢ End of Topic Test	Area of study ➢ Algebra / Graphs Key concepts Substitution / Simplifying Expand (single) / Factorise (linear) Making Formulas from Words / Using Form Solving Equations (one-step / two-step) Sequences - Calculating the nth term (linea Coordinates (x, y) - four quadrants Assessment method ➢ End of Topic Test	Area of study ➢ Fractions / Percentages / Ratio Key concepts Fraction Basics (equivalent, simplify, convert) Fraction Calculations (+/-/x/÷) Fractions of Amounts (calc/no-calc) Percentages of Amounts (calc/no-calc) Ratio Calculations (simplify, share, recipes) Assessment method ➢ End of Topic Test	Area of study ➢ Shape Key concepts Properties of 2D / 3D Shapes Perimeter & Area (square, rectangle, tria Compound Shapes / Plans & Elevations Surface Area & Volume (cube, cuboid) Measuring & Drawing Angles Assessment method ➢ End of Topic Test	Area of study ➢ Shape / Angles / Probability Key concepts Angle Basics (line, point, triangle) Triangle Constructions Introduction to Transformations Probability Basics / Experimental / Listing Outcomes Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Types of Data (discrete / continuous) Mean, Mode, Median, Range Pictograms / Bar Charts Frequency Tables (calculate averages Assessment method ➢ End of Topic Test
Y 8	Area of study ➢ Number Key concepts Revision of Four Operations (whole / dec Rounding (decimals places / significant fi Accuracy & Estimating Basic Power Rules / Square Root / Cube F Revision of Prime Factor Trees / LCM / H Introduction to Standard Form Assessment method ➢ End of Topic Test	Area of study ➢ Algebra / Graphs Key concepts Revision of Algebraic Notation (simplify / e Expand (double) / Factorise (quadratic) Rearranging Formulae (simple) Solving Equations (brackets / unknown bot Introduction to Inequalities Conversion Graphs / Real Life Graphs Assessment method ➢ End of Topic Test	Area of study ➢ Fractions / Percentages / Ratio Key concepts F/D/P Conversions / Worded Problems Revision of F/P (amounts / inc / dec / multi Percentages (original value / percentage ch Best Buy / Recipes / Reading Timetables Unit Conversions / Maps / Scale Drawings Assessment method ➢ End of Topic Test	Area of study ➢ Shape Key concepts Perimeter & Area (trapezium, parallelogr Revision of Perimeter & Area / Compoun Introduction to Circles Surface Area & Volume (triangular prism, Parallel Lines Assessment method ➢ End of Topic Test	Area of study ➢ Angles / Transformations / Probability Key concepts Angles in Polygons Translation / Rotation / Reflection Enlargement of Shapes Frequency Trees / Introduction to Venn Dia Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Two-Way Tables / Line Graphs Time Series / Pie Charts Scatter Graphs (correlation) Grouped Frequency Tables (calculate Assessment method ➢ End of Topic Test
Y 9	Area of study ➢ Number Key concepts Worded Problems (whole numbers / dec Types of Numbers / BODMAS / Negative Simple / Compound Interest Revision of F/D/P (mixed / worded) Powers & Roots (negative, fractional) Manipulating Surds (simplify, rationalise) Assessment method ➢ End of Topic Test	Area of study ➢ Algebra Key concepts Simplifying / Expanding / Substitution Factorising (linear / quadratic / D.O.T.S.) Solve by using Quadratic Formula Completing the Square / Turning Points Solving Equations (mixed / worded) Rearranging Formulae (harder) Algebraic Fractions (+/-/x/÷) Functions (composite, inverse, algebraic) Assessment method ➢ End of Topic Test	Area of study ➢ Constructions / Shape Key concepts Constructions Loci (rules) Bearings / Scale Drawings Pythagoras' Theorem (2D) - ext 3D Trigonometry (2D) - ext 3D Assessment method ➢ End of Topic Test	Area of study ➢ Data Key concepts Box Plots / Cumulative Frequency Histograms (frequency density) Time Series / Scatter Graphs Interpreting Data / Comparing Data Probability Basics / Experimental / Product Rule Assessment method ➢ End of Topic Test	Area of study ➢ Probability Key concepts Listing Outcomes / Frequency Trees The AND / OR Rules (dependent / indepen Tree Diagrams / Conditional Probability Sets & Venn Diagrams Assessment method ➢ End of Topic Test	Area of study ➢ Angles / Circles Key concepts Revision of Graphs & Charts Revision of Angle Rules (mixed / word Circle Theorems - Rules Circle Theorems - Proof Assessment method ➢ End of Topic Test

Y 10

Area of study ➢ Number Key concepts Revision of Prime Factor Trees / LCM / H Revision of Powers & Roots / Manipulatir Fractions & Recurring Decimals Rounding / Estimation / Iteration Upper & Lower Bounds Standard Form Calculations Assessment method ➢ End of Topic Test	Area of study ➢ Algebra / Shape Key concepts Sequences (linear / quadratic) Inequalities (linear / quadratic) Graphical Inequalities / Proof Simultaneous Equations (linear / quadratic 2D Shapes / Perimeter & Area Circles - Sectors / Segments Assessment method ➢ End of Topic Test	Area of study ➢ Graphs Key concepts Coordinates / Midpoints Straight Line Graphs (gradient / intercept) Parallel Lines / Perpendicular Lines Plotting Graphs (linear / quadratic) Harder Graphs / Circle Graphs Assessment method ➢ End of Topic Test	Area of study ➢ Graphs / Percentages Key concepts Graph Transformations Distance Time Graphs Velocity Time Graphs Real Life Graphs / Gradients of Real Life G Revision of Percentages (mixed / worded Assessment method ➢ End of Topic Test	Area of study ➢ Ratio / Proportion Key concepts Revision for Mock Exams Ratio Calculations (mixed / worded) Direct / Inverse Proportion Unit Conversions / Speed, Density, Pressur Revision for Mock Exams Assessment method ➢ End of Topic Test	Area of study ➢ Transformations Key concepts Translation / Rotation / Reflection Enlargement of Shapes (negative, frac Work Experience Assessment method ➢ End of Topic Test

Y 11

Area of study ➢ Shape Key concepts Congruent / Similar Shapes Pythagoras' Theorem / Trigonometry (2D Pythagoras' Theorem / Trigonometry (3D Sine Rule / Cosine Rule Mixed Worded Problems (Pyth/Trig/Sin/(Vectors Assessment method ➢ End of Topic Test	Area of study ➢ Revision 1 Key concepts Topic Revison: Number Topic Revison: Number & Assessment Topic Revision: Algebra Topic Revison: Algebra & Assessment Topic Revision: Graphs / Ratio Topic Revison: Graphs / Ratio & Assessment Mock Past Paper Practice: Set 1 Mock Past Paper Practice: Set 2 Assessment method ➢ Past Papers	Area of study ➢ Revision 2 Key concepts Topic Revison: Data / Probability Topic Revison: Data / Probability & Assessment Topic Revision: Geometry Topic Revison: Geometry & Assessment Mock Past Paper Practice: Set 3 Mock Past Paper Practice: Set 4 Assessment method ➢ Past Papers	Area of study ➢ Past Papers 1 Key concepts Past paper practice 2016 Past paper practice 2017 Mock Past Paper Practice: Specimen Assessment method ➢ Past Papers	Area of study ➢ Past Papers 2 Key concepts Past paper practice 2018 Past paper practice 2019 Mock Assessment Exams Assessment method ➢ Past Papers	Area of study ➢ Examinations Key concepts Exam Revision Assessment method ➢ Past Papers

NOTES

SKILLS FOR LIFE/ FUTURE LEARNING AND EMPLOYMENT

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions