



## A Star Equivalency Test – Maths Higher Exam Content Guide

Number	Graphs
Types of Number and BODMAS	Coordinates and Midpoints
Multiples, Factors and Prime Numbers	Using $y = mx + c$
LCM and HCF	Drawing Straight-Line Graphs
Fractions	Coordinates and Ratio
Fractions, Decimals and Percentages	Parallel and Perpendicular Lines
Fractions and Recurring Decimals	Quadratic Graphs
Rounding Numbers	Solving Equations with Graphs
Estimating	Graph Transformations
Bounds	Distance–Time Graphs
Standard Form	Velocity – Time Graphs
Fraction Problems	
Algebra	Ratio, Proportion and Rates of Change
Powers and Roots	Ratios
Multiplying out Brackets	Direct & Inverse Proportion
Factorising	Percentages
Manipulating Surds	Compound Growth and Decay
Solving Equations	Unit Conversations
Rearranging Formulas	Speed, Density and Pressure
Factorising Quadratics	
The Quadratic Formula	Geometry and Measures
Completing the Square	Geometry
Algebraic Fractions	Parallel Lines
Sequences	Polygons
Inequalities	Triangles and Quadrilaterals
Iterative Methods	Circle Geometry
Simultaneous Solutions	Congruent Shapes
Proof	Similar Shapes
Functions	The Four Transformations
	Area – Triangles, Quadrilateral and Circles
	3D Shapes - Surface Area and Volume
	Enlargement and Projections
	Loci and Constructions
	Bearings



<b>Pythagoras' Theorem &amp; Trigonometry</b>	<b>Probability and Statistics</b>
Pythagoras' Theorem	Probability Basics
Trigonometry – Sin, Cos, Tan	Probability Experiments
Trigonometry – Common Values	The AND / OR Rules
3D Trigonometry	Tree Diagrams
3D Pythagoras	Conditional Probability
Vectors	Sets and Venn Diagrams
	Sampling and Data Collection
	Mean, Median, Mode and Range
	Frequency / Grouped Frequency
	Box Plots
	Cumulative Frequency
	Histograms and Frequency Density
	Scatter Graphs
	Comparing Data Sets



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## A Star Equivalency Test – Maths Foundation Exam Content Guide

<b>Number</b>	<b>Graphs</b>
Types of Number and BODMAS	Coordinates and Midpoints
Multiplying and Dividing by 10, 100, etc	Straight- Line Graphs
Multiplying and Dividing Whole Numbers	Drawing Straight-Line Graphs
Multiplying and Dividing with Decimals	Straight Line Graphs: Gradients
Negative Numbers	Straight Line Graphs: $y = mx + c$
Prime Numbers	Using $y = mx + c$
Multiples, Factors and Prime Numbers	Quadratic Graphs
LCM & HCF	Solving Equations with Graphs
Fractions without a Calculator	Distance–Time Graphs
Fraction Problems	Travel Graphs
Fractions, Decimals and Percentages	Midpoints of Line Segments
Rounding Numbers	
Estimating	<b>Ratio, Proportion and Rates of Change</b>
Rounding Errors	Ratios
Powers	Direct Proportion
Roots	Inverse Proportion
Standard Form	Percentages
	Compound Growth and Decay
<b>Algebra</b>	Unit Conversations
Algebra – Simplifying	Area and Volume Conversions
Algebra – Multiplying and Dividing	Time Intervals
Multiplying Double Brackets	Speed, Density and Pressure
Factorising	
Solving Equations	<b>Shapes and Area</b>
Expressions, Formulas and Functions	Properties of 2D shapes
Formulas and Equations from Words	Congruence Shapes
Formulas and Equations from Diagrams	Similar Shapes
Rearranging Formulas	The Four Transformations
Sequences	Perimeter and Area
Inequalities	Perimeter and Area - Circles
Quadratic Equations	3D Shapes
Simultaneous Equations	3D Shapes - Surface Area
Proof	3D Shapes - Volume
	Projections



<b>Angles and Geometry</b>	<b>Probability and Statistics</b>
Angle Basics	Probability Basics
Five Angles Rules	Probability Experiments
Parallel Lines	The AND / OR Rules
Geometry Problems	Tree Diagrams
Angles in Polygons	Sets and Venn Diagrams
Triangle Constructions	Sampling and Bias
Loci and Constructions	Collecting Data
Bearings	Mean, Median, Mode and Range
Map and Scale Drawings	Simple Charts and Graphs
Pythagoras' Theorem	Pie Charts
Trigonometry – Sin, Cos, Tan, Common Values	Scatter Graphs
Vectors	Frequency / Grouped Frequency
	Interpreting Data
	Comparing Data Sets



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