

Subject Content

- Number
- Algebra
- Ratio, Proportion, Rates of Change
- Geometry and Measures
- Probability and Statistics

Grades that will be examined:

Higher	1	2	3	4	5	6	7	8	9
Foundation	1	2	3	4	5				

You will find some formulas and information in this insert.

It will be very helpful to learn it all, off-by-heart for your exam.

Area of a circle = πr^2
 Circumference of a circle = $2\pi r$



Grade 1

- Integers and Even/Odd Numbers 1
- Place Value 2
- Ordering Numbers 3
- Reading Scales 4
- Simple Mathematical Notation 5
- Interpreting Real-Life Tables 6
- Introduction to Algebraic Conventions 7
- Coordinates 8
- Simple Geometric Definitions 9
- Polygons 10
- Symmetries 11
- Tessellations and Congruent Shapes 12
- Names of Angles 13
- The Probability Scale 14
- Tally Charts and Bar Charts 15
- Pictograms 16

Addition/Subtraction

$(+ +)$ becomes + eg. $5 - (-3) = 5 + 3$

$(- -)$ becomes +

$(+ -)$ becomes - eg. $5 + (-3) = 5 - 3$

$(- +)$ becomes -

Multiplication/Division

$(+) \times (+)$ becomes + eg. $(-5) \times (-3) = 15$

$(-) \times (-)$ becomes +

$(+) \times (-)$ becomes - eg. $(-5) \times 3 = -15$

$(-) \times (+)$ becomes -

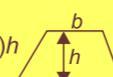
Grade 2

- Adding Integers and Decimals 17
- Subtracting Integers and Decimals 18
- Multiplying Integers 19
- Dividing Integers 20
- Inverse Operations 21
- Money Questions 22
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- Introduction to Fractions 24
- Equivalent Fractions 25
- Simplifying Fractions 26
- Half-Way Values 27
- Factors, Multiples and Primes 28
- Introduction to Powers/Indices 29
- Multiply and Divide by Powers of 10 30
- Rounding to the Nearest 10, 100 etc 31
- Rounding to Decimal Places 32
- Simplifying - Addition and Subtraction 33
- Simplifying - Multiplication 34
- Simplifying - Division 35
- Function Machines 36
- Generating a Sequence - Term to Term 37
- Introduction to Ratio 38
- Using Ratio for Recipe Questions 39
- Introduction to Percentages 40
- Value for Money 41
- Introduction to Proportion 42
- Properties of Solids 43
- Nets 44
- Angles on a Line and at a Point 45
- Measuring and Drawing Angles 46
- Drawing a Triangle Using a Protractor 47
- Reflections 48
- Rotations 49
- Translations 50
- Plans and Elevations 51
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- Area of a Rectangle 53
- Area of a Triangle 54
- Area of a Parallelogram 55
- Area of a Trapezium 56
- Frequency Trees 57
- Listing Outcomes 58
- Calculating Probabilities 59
- Mutually Exclusive Events 60
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- Averages and the Range 62
- Data - Discrete and Continuous 63
- Vertical Line Charts 64
- Frequency Tables and Diagrams 65

Area of a triangle = $\frac{b \times h}{2}$



Area of trapezium = $\frac{1}{2}(a + b)h$



Prime Numbers
 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, . . .
 Each prime number has exactly two factors.

Grade 3

- Multiplying Decimals 66
- Dividing Decimals 67
- Four Rules of Negatives 68
- Listing Strategies 69
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- Adding and Subtracting Fractions 71
- Finding a Fraction of an Amount 72
- Multiplying Fractions 73
- Dividing Fractions 74
- BODMAS/BIDMAS 75
- Reciprocals 76
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- Highest Common Factor (HCF) 79
- Lowest Common Multiple (LCM) 80
- Squares, Cubes and Roots 81
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The Laws of Indices

$x^a \times x^b = x^{a+b}$
 $x^a \div x^b = x^{a-b}$
 $(x^a)^b = x^{ab}$
 $x^{-a} = \frac{1}{x^a}$

Pythagoras
 $a^2 + b^2 = c^2$

Trigonometry

Grade 6

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- Product of Three Binomials 178
- Iteration - Trial and Improvement 179
- Iterative Processes 180
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- Solving Quadratics - Advanced 191
- Forming and Solving Quadratics 192
- Algebraic Proof 193
- Exponential Functions 194
- Trigonometric Graphs 195
- Transformation of Functions 196
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- Finding the n th Term of a Quadratic 213
- Inverse Functions 214
- Composite Functions 215
- Interpreting Graphs 216
- Pythagoras in 3D 217
- Trigonometry in 3D 218
- Vectors 219

Fractional Indices
 $x^{\frac{a}{b}} = (\sqrt[b]{x})^a$

Surds
 $\sqrt{a} \times \sqrt{a} = a$
 $\sqrt{a \times b} = \sqrt{a} \times \sqrt{b}$

Quadratic Formula
 $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$\sqrt{\frac{a}{b}} = \frac{\sqrt{a}}{\sqrt{b}}$

Sine Rule
 $\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$

Cosine Rule
 $a^2 = b^2 + c^2 - 2bc \cos A$

Histograms
 frequency density = $\frac{\text{frequency}}{\text{class width}}$

MATHSWATCH COVERS EVERY TOPIC ON THE GCSE SYLLABUS

Grades that will be examined: Grades that can be obtained:

Higher	1	2	3	4	5	6	7	8	9	Higher	4	5	6	7	8	9
Foundation	1	2	3	4	5					Foundation	1	2	3	4	5	

The Maths Grade 1 to 9 syllabus is split into 5 areas and 258 videos.

- Number - 67 videos
- Algebra - 68 videos
- Ratio and Proportion - 25 videos
- Geometry and Measures - 66 videos
- Probability and Statistics - 32 videos

How long will it take to revise?

The timings of our videos are:

- 0 to 5 mins 110 videos
- 5 to 10 mins 121 videos
- 10 to 15 mins 22 videos
- 15 to 20 mins 4 videos
- 20 to 25 mins 1 video