**Unit 1 Number**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Place Value | **1** |
|  | Ordering Integers | **2** |
|  | Ordering Decimals | **3** |
|  | Simple Mathematical Notation | **5** |
|  |  |  |
| **2** | Adding Integers and Decimals | **17** |
|  | Subtracting Integers and Decimals | **18** |
|  | Multiplying Integers | **19** |
|  | Dividing Integers | **20** |
|  | Inverse Operations | **21** |
|  | Negatives in Real Life | **23** |
|  | 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** |
|  |  |  |
| **3** | Multiplying Decimals  | **66** |
|  | Dividing Decimals | **67** |
|  | Four Rules of Negatives | **68** |
|  | BIDMAS | **75** |
|  | Reciprocals | **76** |
|  | Calculator questions | **77** |
|  | Product of Primes | **78** |
|  | Highest Common Factor | **79** |
|  | Lowest Common Multiple | **80** |
|  | Squares, Cubes and Roots | **81** |
|  | Working with Indices | **82** |
|  | Rounding to significant figures | **90** |
|  | Estimating Answers | **91** |
|  | Using Place Value | **92** |
|  | Metric Conversions | **112** |
|  |  |  |
| **4** | Index Notation | **131** |
|  |  |  |
|  | *Also – understand surd notation on a calculator*  |  |

**Unit 2 Algebra**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Introduction to Algebraic conventions | **7** |
|  |  |  |
| **2** | Simplifying – addition and subtraction | **33** |
|  | Simplifying – Multiplication | **34** |
|  | Simplifying – Division | **35** |
|  |  |  |
| **3** | Expanding brackets  | **93** |
|  | Simple factorisation | **94** |
|  | Substitution  | **95** |
|  |  |  |
| **4** | Index Notation (algebraic) | **131** |
|  | Expanding and simplifying brackets  | **134** |
|  | Forming Formulae and Equations | **137** |
|  |  |  |

**Unit 3 Graphs, Tables and Charts**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Tally Charts and Bar Charts | **15** |
|  | Interpreting Real Life Tables | **6** |
|  |  |  |
| **2** | Two Way Tables | **61** |
|  | Vertical Line Charts | **64** |
|  | Frequency Tables and Diagrams | **65** |
|  |  |  |
| **3** | Representing Data (Pie Charts and Stem and Leaf) | **128** |
|  | Scatter Diagrams | **129** |
|  |  |  |
| **4** | Time Series | **153** |
|  |  |  |

**Unit 4 Fractions and percentages**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Introduction to Fractions | **24** |
|  | Equivalent Fractions | **25** |
|  | Simplifying Fractions | **26** |
|  | Half Way Values | **27** |
|  | Introduction to Percentages  | **40** |
|  |  |  |
| **3** | Comparing Fractions | **70** |
|  | Adding and Subtracting Fractions | **71** |
|  | Finding a fraction of an Amount | **72** |
|  | Multiplying Fractions | **73** |
|  | Dividing Fractions | **74** |
|  | Reciprocals  | **76** |
|  | Decimals and Fractions | **84** |
|  | Fractions, Percentages and Decimals | **85** |
|  | Percentage of an amount with a calculator | **86** |
|  | Percentage of and amount without a calculator | **87** |
|  | Change to a Percentage with a calculator | **88** |
|  | Change to a Percentage without a calculator | **89** |
|  | Increase/Decrease by a percentage | **108** |
|  | Percentage Change  | **109** |
|  | Reverse Percentage Problems | **110** |
|  | Simple Interest | **111** |
|  |  |  |

**Unit 5 Equations, Inequalities and Sequences**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Function Machines | **36** |
|  | Generating a sequence term to term | **37** |
|  |  |  |
| **3** | Solving equations using flow charts | **100** |
|  | Subject of a formula using flowcharts | **101** |
|  | Generate a sequence from nth term | **102** |
|  | Finding the nth term (*of a linear/arithmetic sequence)* | **103** |
|  | Special sequences | **104** |
|  |  |  |
| **4** | Solving Equations | **135** |
|  | Rearranging simple formulae | **136** |
|  | Inequalities on a number line | **138** |
|  | Solving Linear inequalities | **139** |
|  | Fibonacci Sequences | **141** |
|  |  |  |
| **5** | Geometric Progressions | **163** |
|  |  |  |
|  | *Must also know the difference between and expression, equation, identity and formula* |  |

**Unit 6 Angles**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Simple Geometric Definitions | **9** |
|  | Polygons | **10** |
|  | Symmetries | **11** |
|  | Tessellation and Congruent Shapes | **12** |
|  | Names of Angles | **13** |
|  |  |  |
| **2** | Properties of solids | **43** |
|  | Angles on a line and at a Point | **45** |
|  | Measuring and drawing Angles | **46** |
|  |  |  |
| **3** | Angles and Parallel Lines | **120** |
|  | Angles in a Triangle | **121** |
|  | Properties of Special Triangles | **122** |
|  | Angle Sum of Polygons | **123** |
|  |  |  |

**Unit 7 Averages and Range**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Averages and the Range  | **62** |
|  | Data – Discrete and Continuous | **63** |
|  |  |  |
| **3** | Averages from a table | **130** |
|  |  |  |
| **4** | Sampling Populations | **152** |
|  |  |  |
| **5** | Stratified Sampling *(don’t think needed for Foundation)* | **176** |

**Unit 8 Perimeter, Area and Volume 1**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Perimeters | **52** |
|  | Area of Rectangle | **53** |
|  | Area of triangle | **54** |
|  | Area of Parallelogram | **55** |
|  | Area of Trapezium | **56** |
|  |  |  |
| **3** | Metric Conversions | **112** |
|  | Problems on coordinate axes | **113** |
|  | Surface Area of a prism | **114** |
|  | Volume of a Cuboid | **115** |
|  | Volume of a Prism  | **119** |
|  |  |  |
|  | *Also need hectares (ha) and conversion to m2* |  |
|  |  |  |
| **4** | Introduction to Bounds | **132** |
|  | Error Intervals | **155** |
|  |  |  |

**Unit 9 Graphs**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Coordinates | **8** |
|  |  |  |
| **3** | Straight Line Graphs | **96** |
|  | The gradient of a line | **97** |
|  |  |  |
| **4** | Midpoint of a line on a graph | **133** |
|  | Distance Time Graphs | **143** |
|  | Real Life Graphs  | **No clip** |
|  | Conversion Graphs | **No clip** |
|  |  |  |
| **5** | Finding the equation of a straight line | **159** |

**Unit 10 Transformations**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Reflections | **48** |
|  | Rotations | **49** |
|  | Translations | **50** |
|  |  |  |
| **4** | Enlargements | **148** |
|  |  |  |

**Unit 11 Ratio and Proportion**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Money Questions | **22** |
|  | Introduction to ratio | **38** |
|  | Using Ratio for Recipe Questions | **39** |
|  | Value for Money | **41** |
|  | Introduction to Proportion | **42** |
|  |  |  |
| **3** | Exchanging Money | **105** |
|  | Sharing using Ratio | **106** |
|  | Ratios, Fractions and Graphs | **107** |
|  |  |  |

**Unit 12 Right Angled Triangles**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **4** | Pythagoras’ Theorem | **150** |
|  |  |  |
| **5** | Trigonometry | **168** |
|  | Exact Trigonometric Values | **173** |
|  |  |  |

**Unit 13 Probability**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | The probability scale | **14** |
|  |  |  |
| **2** | Frequency Trees | **57** |
|  | Listing Outcomes | **58** |
|  | Calculating Probabilities | **59** |
|  | Mutually Exclusive Events | **60** |
|  | Two-Way Tables | **61** |
|  |  |  |
| **3** | Listing Strategies | **69** |
|  | Experimental Probabilities (relative frequency) | **125** |
|  | Possibilities Spaces (sample space diagrams) | **126** |
|  | Venn Diagrams | **127** |
|  |  |  |
| **4** | Simple Tree Diagrams | **151** |
| **5** | Harder Tree Diagrams (without replacement) | **175** |
|  |  |  |
|  | ALSO helpful from Higher…………. |  |
| ***6*** | *Probability Using Venn Diagrams* | ***185*** |
|  |  |  |
| ***7*** | *AND and OR probability questions* | ***204*** |
|  |  |  |
|  | Also need set notation  |  |
|  |  |  |

**Unit 14 Multiplicative Reasoning**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **2** | Introduction to Ratio | **38** |
|  | Using Ratio for Recipe Questions | **39** |
|  | Introduction to percentages | **40** |
|  | Value for Money | **41** |
|  | Introduction to proportion | **42** |
|  |  |  |
| **3** | Increase/decrease by a percentage | **108** |
|  | Percentage change | **109** |
|  | Reverse percentage problems | **110** |
|  | Simple interest | **111** |
|  |  |  |
| **4** | Compound Units | **142** |
|  |  |  |
| **5** | Compound interest and Depreciation | **164** |
|  |  |  |
| ***7*** | *Direct and Inverse Proportion* | ***199*** |
|  |  |  |

**Unit 15 Constructions, Loci and Bearings**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **1** | Reading Scales | **4** |
|  |  |  |
| **2** | Nets | **44** |
|  | Drawing a Traingle using a protractor | **47** |
|  | Plans and elevations | **51** |
|  |  |  |
| **3** | Bearings | **123** |
|  |  |  |
| **4** | Bisecting and Angle | **145** |
|  | Constructing Perpendiculars | **146** |
|  | Drawing triangle using compasses | **147** |
|  |  |  |
| **5** | Loci | **165** |
|  |  |  |

**Unit 16 Quadratic Equations and Graphs**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
|  |  |  |
| **3** | Drawing Quadratic Graphs | **98** |
|  |  |  |
| **4** | Expanding and Simplifying brackets (worksheet B) | **134** |
|  |  |  |
| **5** | Factorising and Solving Quadratics | **157** |
|  | The Difference of Two Squares | **158** |
|  |  |  |

**Unit 17 Perimeter, Area and Volume 2**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **3** | Circle Definitions | **116** |
|  | Area of a Circle | **117** |
|  | Circumference of a Circle | **118** |
|  |  |  |
| **4** | Tangents, Arcs, Sectors and Segments  | **149** |
|  |  |  |
| **5** | Sectors of a circle | **167** |
|  | Spheres | **169** |
|  | Pyramids | **170** |
|  | Cones | **171** |
|  | Frustams | **172** |
|  |  |  |

**Unit 18 Fractions, Indices and standard form**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **3** | Multiplying Fractions | **73** |
|  | Dividing Fractions | **74** |
|  | Working with indices | **82** |
|  | Standard Form | **83** |
|  |  |  |
| **4** | Index Notation | **131** |
|  |  |  |
| **5** | Negative Indices | **154** |
|  |  |  |
| **7** | Fractional Indices (1/2, 1/3 etc ) | **188** |
|  |  |  |

**Unit 19 Congruence, Similarity and Vectors**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **4** | Similar Shapes | **144** |
|  |  |  |
| **5** | Congruent Triangles | **166** |
|  | Introduction to Vectors | **174** |

**Unit 20 More Algebra**

|  |  |  |
| --- | --- | --- |
| **GRADE** | **Topic** | **Clip Number** |
| **3** | Sketching Functions | **99** |
|  |  |  |
| **4** | Simultaneous Equation Graphically | **140** |
|  | Rearranging Simple Formulae | **136** |
|  |  |  |
| **5** | Mathematical Reasoning (proof) | **156** |
|  | Roots and Turning Points of Quadratics | **160** |
|  | Cubic and Reciprocal Graphs | **161** |
|  | Simultaneous Equations Algebraically | **162** |
|  |  |  |
|  |  |  |