**HIGHER - Grades 4 – 9**

**Algebra**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|   | 9 | Approximate solutions to equations using iteration. | 322 |
|  | 9 | Equation of a circle | 314-317 |
|  | 9 | Equation of a tangent  | 319-320 |
|  | 8 | Algebra and Proof | 324-327 |
|  | 8 | Gradients and area under a graph |  |
|  | 8 | Graphs of trigonometric functions | 303-306 |
|  | 8 | Quadratic equations (completing the square) | 235-237 |
|  | 7 | Composite functions | 293-294 |
|  | 7 | Expand the product of two or more binomials | 164 |
|  | 7 | Factorising difficult quadratic expressions | 225-227 |
|  | 7 | Geometric Sequences | 264 |
|  | 7 | Graphs of exponential functions | 302 |
|  | 7 | Quadratic equations (needing re-arrangement) | 230-234 |
|  | 7 | Quadratic equations (quadratic formula) | 240-242 |
|  | 7 | Real-life exponential graphs | 302 |
|  | 7 | Represent quadratic inequalities | 277 |
|  | 7 | Simultaneous equations (non-linear) | 246 |
|  | 7 | Solve quadratic inequalities | 277 |
|  | 7 | Translations and reflections of a function | 307-313 |
|  | 7 | Turning points & completing the square | 255-256 |
|  | 6 | Algebraic fractions | 172,187,229, 244 |
|  | 6 | Identifying parallel lines | 214 |
|  | 6 | Inverse functions | 295-296 |
|  | 6 | Linear inequalities in two variables | 272-276 |
|  | 6 | nth term of a quadratic sequence | 249-250 |
|  | 6 | Quadratic equations (factorisation) | 230-234 |
|  | 6 | Quadratic equations (graphical methods) | 259-260 |
|  | 6 | Represent linear inequalities | 265 |
|  | 6 | Simultaneous equations (linear) | 190-194 |
|  | 5 | Cubic and Reciprocal graphs | 298-300 |
|  | 5 | Deduce quadratic roots algebraically | 253 |
|  | 5 | Derive an equation | 176 |
|  | 5 | Equation of a line | 206-213 |
|  | 5 | Expand the product of two binomials | 162-165 |
|  | 5 | Factorising quadratic expressions | 223-224 |
|  | 5 | Fibonacci, quadratic and simple geometric sequences  | 247, 263,264 |
|  | 5 | Graphical solution to equations | 260 |
|  | 5 | Inequalities on number lines | 265-266 |
|  | 5 | Linear equations | 184-186 |
|  | 5 | Quadratic graphs | 251 |
|  | 5 | Reciprocal real-life graphs | 300-301 |
|  | 5 | Simplify indices | 173-175 |
|  | 5 | Simplify surds | 115-117 |
|  | 5 | Solve linear inequalities in one variable | 269,270,272 |
|  | 5 | Writing formulae and expressions | 151-153 |
|  | 4 | Changing the subject | 280-286 |
|  | 4 | Collecting like terms | 156-157 |
|  | 4 | Expressions | 158-159 |
|  | 4 | Factorise single bracket | 168-169 |
|  | 4 | Finding the equation of a line | 206-216 |
|  | 4 | Graphs of linear functions | 205 |
|  | 4 | Multiplying single brackets | 160 |
|  | 4 | nth term of a linear sequence | 198 |
|  | 4 | Substitution | 287,278,279,155 |
|  | 4 | Using "y = mx + c" | 206-216 |

**Geometry and Measures**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|  | 8 | Circle theorems | 594-606 |
|  | 8 | Vector arguments and proof | 622-636 |
|  | 7 | Area of a triangle | 516-519 |
|  | 7 | Cosine Rule | 526-530 |
|  | 7 | Pythagoras and trig 2D and 3D | 505-507 |
|  | 7 | Sine Rule | 520-525 |
|  | 6 | Combined transformations | 656-657 |
|  | 6 | Congruence and Similarity | 608-621 |
|  | 6 | Standard trigonometric ratios | 508-515 |
|  | 5 | Arc lengths and sectors | 544-547 |
|  | 5 | Derive triangle results | 516, 526, 520 |
|  | 5 | Enlargements and negative SF | 646-647 |
|  | 5 | Loci |  |
|  | 5 | Pythagoras | 497-504 |
|  | 5 | Standard constructions | 659-669 |
|  | 5 | Surface Area | 584-591 |
|  | 5 | Trigonometric ratios | 508-515 |
|  | 5 | Volume | 568-583 |
|  | 4 | Alternate and corresponding angles | 481-484, 488-491 |
|  | 4 | Area of a circle | 539-544 |
|  | 4 | Areas of composite shapes | 555 |
|  | 4 | Areas of triangles, trapezia and parallelograms | 556-559 |
|  | 4 | Bearings | 492-560 |
|  | 4 | Circle terminology | 592 |
|  | 4 | Circumference of a circle | 534-538 |
|  | 4 | Congruent triangles | 611-613 |
|  | 4 | Enlargements and fractional SF | 645 |
|  | 4 | Perimeter of 2D shapes | 548-552 |
|  | 4 | Plans and elevations |  |
|  | 4 | Polygons | 560-565 |
|  | 4 | Solve geometrical problems | 497, 516 |
|  | 4 | Volume of prisms | 568-575 |

**Statistics**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|  | 6 | Boxplots | 434-436 |
|  | 6 | Cumulative frequency | 437-439 |
|  | 6 | Histograms with unequal class widths | 442-449 |
|  | 6 | Quartiles and Interquartile Range | 434-439 |
|  | 5 | Histograms with equal class widths | 425 |
|  | 5 | Scatter graphs | 453-454 |
|  | 4 | Comparing data using graphs |  |
|  | 4 | Comparing Distributions |  |
|  | 4 | Correlation |  |
|  | 4 | Population |  |
|  | 4 | Sampling | 394-398 |
|  | 4 | Time series | 450-452 |

**Probability**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|  | 7 | Conditional Probability | 389-390 |
|  | 5 | Probability of dependent events | 364-368 |
|  | 5 | Probability of independent events | 360-363 |
|  | 4 | Mutually exclusive sum | 353-354 |
|  | 4 | Relative Frequency | 356-357 |
|  | 4 | Tables and Grids | 351-352 |
|  | 4 | Theoretical Probability | 355 |
|  | 4 | Unbiased Samples |  |
|  | 4 | Venn Diagrams | 372-388 |

**Number**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|  | 8 | Surds | 111-119 |
|  | 7 | Index Laws (negative and fractional) | 120, 173-175 |
|  | 7 | Product rule | 221 |
|  | 7 | Recurring Decimals | 53-54 |
|  | 7 | Upper and lower bounds | 137-139 |
|  | 6 | Powers and Roots | 102-110 |
|  | 6 | Product of prime factors | 29-30 |
|  | 6 | Using Pi |  |
|  | 5 | Calculating with fractions | 63-71 |
|  | 5 | Error intervals |  |
|  | 5 | Index Laws | 102-110 |
|  | 5 | Limits of accuracy | 137-139 |
|  | 4 | Adding and subtracting fractions | 66 |
|  | 4 | Checking calculations | 128-129 |
|  | 4 | Compound measures |  |
|  | 4 | Converting metric units |  |
|  | 4 | Estimation | 131 |
|  | 4 | Fractions and percentages  | 75-76 |
|  | 4 | Fractions and ratio problems | 330 |
|  | 4 | Interpret calculator displays | 129-128 |
|  | 4 | LCM and HCF  | 32,35,36 |
|  | 4 | Multiples and factors | 27, 33 |
|  | 4 | Multiplying fractions | 68, 69, 72 |
|  | 4 | Operations | 24 |
|  | 4 | Order of operations | 44 |
|  | 4 | Rounding | 130, 133 |
|  | 4 | Standard Form | 121-128 |
|  | 4 | Terminating decimals and fractions | 53-54 |

**Ratio, Proportion and rates of change**

|  |  |  |  |
| --- | --- | --- | --- |
| I can do this  | Grade | Title | Hegarty Maths Clip Number |
|  | 9 | Gradients and the rate of change |  |
|  | 7 | General iterative processes |  |
|  | 6 | Direct and inverse proportion | 339-341 |
|  | 5 | Compound Units |  |
|  | 5 | Gradient & the rate of change |  |
|  | 5 | Growth and decay | 94-95 |
|  | 5 | Interpret Proportion | 348 |
|  | 5 | Reverse Percentages | 96 |
|  | 5 | Scale factors and similarity | 608-621 |
|  | 5 | Simple Interest and Financial Maths | 93 |
|  | 5 | Solve Proportion Problems | 343-347 |
|  | 4 | Compare Fractions, Decimals and Percentages | 82-83 |
|  | 4 | Compare lengths, area, volume  | 614 |
|  | 4 | Comparing quantities as a ratio | 328 |
|  | 4 | Division of a quantity as a ratio | 332-334 |
|  | 4 | Express one quantity as a % of another |  |
|  | 4 | Percentage change | 97 |
|  | 4 | Problems involving ratio | 335-337 |
|  | 4 | Proportion and ratio | 330 |
|  | 4 | Ratio and fractions | 329-331 |
|  | 4 | Ratio Sharing | 332-334 |

**Exam details:**

**Edexcel GCSE Mathematics A - Higher**

**Exam Dates:**

**Paper 1 (non-calc) –**

**Paper 2 (calc) –**

**Paper 3 (calc) –**

**All papers 90 minutes each**