**GCSE Mathematics
Autumn 1 Revision List (Higher)**

**PUT DATE IN:** Paper 1 - Non-Calculator
**PUT DATE IN:** Paper 2 – Calculator

**PUT DATE IN:** Paper 3 – Calculator

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Topic List** | **Hegarty Maths** **Clip Numbers** |  |  |  |
| **Basic Skills** |
| Negative Numbers: Four Operations | [**41**](https://hegartymaths.com/adding-subtracting-positive-negative-numbers)**,**[**42**](https://hegartymaths.com/multiplying-positive-negative-numbers)**,**[**43**](https://hegartymaths.com/dividing-positive-negative-numbers)**,**[**44**](https://hegartymaths.com/order-of-operations-2-negative-numbers) |  |  |  |
| Add and Subtract Fractions and Mixed Numbers | [**63**](https://hegartymaths.com/improper-fractions-to-mixed-numbers)**,**[**64**](https://hegartymaths.com/mixed-numbers-to-improper-fractions)**,**[**66**](https://hegartymaths.com/add-or-subtract-fractions-different-denominator) |  |  |  |
| Multiplication and Division of Fractions | [**67**](https://hegartymaths.com/multiply-whole-number-by-fractions)**,** [**68**](https://hegartymaths.com/multiplying-fractions-1)**,** [**69**](https://hegartymaths.com/multiplying-fractions-2)**,** [**70**](https://hegartymaths.com/dividing-fractions)**,** [**71**](https://hegartymaths.com/reciprocal-of-fractions)**,** [**72**](https://hegartymaths.com/linking-multiplyingdividing-fractions-whole-numbers) |  |  |  |
| Multiplication and Division of Decimal Numbers | [**48**](https://hegartymaths.com/multiplication-with-decimals)**,** [**49**](https://hegartymaths.com/division-with-decimal-answers)**,** [**50**](https://hegartymaths.com/division-of-decimals) |  |  |  |
| Basic Percentages: Non-Calculator and Calculator | [**84**](https://hegartymaths.com/find-percentages-of-amounts-1-common-non-calc)**,** [**85**](https://hegartymaths.com/find-percentages-of-amounts-2-using-10-non-calc)**,** [**86**](https://hegartymaths.com/find-percentages-of-amounts-3-using-decimals-non-calc)**,** [**87**](https://hegartymaths.com/find-percentages-of-amounts-4-using-calculator) |  |  |  |
| Fraction, Decimal and Percentage Conversions | [**52**](https://hegartymaths.com/convert-simple-decimals-to-fractions)**,** [**55**](https://hegartymaths.com/convert-simple-decimals-to-percentages)**,** [**74**](https://hegartymaths.com/convert-fractions-to-decimals-2)**,** [**76**](https://hegartymaths.com/convert-fractions-to-percentages-2)**,** [**82**](https://hegartymaths.com/convert-percentages-to-fractions)**,** [**83**](https://hegartymaths.com/convert-percentages-to-decimals)**,** [**149**](https://hegartymaths.com/conversions-between-fdp-summary) |  |  |  |
| **Number** |
| Estimation and Significant Figures | [**130**](https://hegartymaths.com/round-to-significant-figures)**,** [**131**](https://hegartymaths.com/estimate-complex-calculations) |  |  |  |
| Basic Index Laws | [**103**](https://hegartymaths.com/index-form-2-power-of-0-1)**,** [**105**](https://hegartymaths.com/index-form-4-multiplying-indices)**,** [**106**](https://hegartymaths.com/index-form-5-dividing-indices)**,** [**107**](https://hegartymaths.com/index-form-6-power-of-power-rule) |  |  |  |
| Fractional and Negative Index Laws | [**104**](https://hegartymaths.com/index-form-3-power-of-negative-integers)**,** [**108**](https://hegartymaths.com/index-form-7-powers-of-unit-fractions)**,** [**109**](https://hegartymaths.com/index-form-8-powers-of-non-unit-fractions)**,** [110](https://hegartymaths.com/division-facts) |  |  |  |
| Standard Form Calculations | [**124**](https://hegartymaths.com/adjusting-to-correct-standard-form)**,** [**125**](https://hegartymaths.com/multiplying-with-standard-form)**,** [**126**](https://hegartymaths.com/dividing-with-standard-form)**,** [**127**](https://hegartymaths.com/adding-subtracting-with-standard-form) |  |  |  |
| Surds: The Basics - Simplifying, Multiplying, Dividing | [**112**](https://hegartymaths.com/estimating-a-surd-value)**,** [**113**](https://hegartymaths.com/multiplication-division-with-surds-1)**,** [**114**](https://hegartymaths.com/multiplication-division-with-surds-2)**,** [**115**](https://hegartymaths.com/simplifying-surds) |  |  |  |
| Surds: Expanding Brackets | [**116**](https://hegartymaths.com/brackets-involving-surds-1)**,** [**117**](https://hegartymaths.com/brackets-involving-surds-2) |  |  |  |
| Surds: Rationalising the Denominator | [**118**](https://hegartymaths.com/rationalising-surds-1)**,** [**119**](https://hegartymaths.com/rationalising-surds-2) |  |  |  |
| **Algebra** |
| Forming Algebraic Expressions and Formulae | [**150**](https://hegartymaths.com/order-of-operations-4-combined)**,** [**151**](https://hegartymaths.com/writing-algebraic-expressions-1)**,** [**153**](https://hegartymaths.com/writing-algebraic-expressions-3-in-context)**,** [**155**](https://hegartymaths.com/writing-formulae-simple-substitution) |  |  |  |
| Equations, Expressions, Identities and Formulae | [**154**](https://hegartymaths.com/expressions-equations-identities-formulae) |  |  |  |
| Simplifying Algebraic Expressions, including Brackets | [**157**](https://hegartymaths.com/collecting-like-terms-2)**,** [**158**](https://hegartymaths.com/simplifying-expressions-involving-multiplication)**,** [**159**](https://hegartymaths.com/simplifying-expressions-involving-division)**,** [**160**](https://hegartymaths.com/expand-a-single-bracket)**,** [**161**](https://hegartymaths.com/expand-two-single-brackets-simplify) |  |  |  |
| Expanding Double Brackets | [**162**](https://hegartymaths.com/expand-double-brackets-1)**,** [**163**](https://hegartymaths.com/expand-double-brackets-2)**,** [**164**](https://hegartymaths.com/expand-double-brackets-3)**,** [**165**](https://hegartymaths.com/expand-brackets-difference-of-two-squares) |  |  |  |
| Expanding Triple Brackets | [**166**](https://hegartymaths.com/expand-triple-brackets) |  |  |  |
| Factorising Single Brackets | [**167**](https://hegartymaths.com/hcf-of-algebraic-expressions)**,** [**168**](https://hegartymaths.com/factorise-simple-expressions-1)**,** [**169**](https://hegartymaths.com/factorise-simple-expressions-2) |  |  |  |
| Simplifying Expressions by Factorising | [**170**](https://hegartymaths.com/simplifying-expressions-by-factorising-1)**,** [**171**](https://hegartymaths.com/simplifying-expressions-by-factorising-2) |  |  |  |
| Factorising Double Brackets: Quadratic Expressions | [**223**](https://hegartymaths.com/factorise-quadratic-expressions-1)**,** [**224**](https://hegartymaths.com/factorise-quadratic-expressions-2)**,** [**225**](https://hegartymaths.com/factorise-quadratic-expressions-3)**,** [**226**](https://hegartymaths.com/factorise-quadratic-expressions-4)**,** [**227**](https://hegartymaths.com/factorise-quadratic-expressions-5)**,** [**228**](https://hegartymaths.com/factorise-quadratic-expressions-6) |  |  |  |
| Simplifying Expressions using the Index Laws  | [**173**](https://hegartymaths.com/indices-with-algebraic-expressions-1)**,** [**174**](https://hegartymaths.com/indices-with-algebraic-expressions-2)**,** [**175**](https://hegartymaths.com/indices-with-algebraic-expressions-3) |  |  |  |
| Linear Sequences: nth Term Rule | [**196**](https://hegartymaths.com/linear-sequences-from-pictures)**,** [**197**](https://hegartymaths.com/linear-sequences-term-to-term-rule)**,** [**198**](https://hegartymaths.com/linear-sequences-nth-term) |  |  |  |
| Quadratic Sequences: nth Term Rule | [**247**](https://hegartymaths.com/identify-a-quadratic-sequence)**,** [**248**](https://hegartymaths.com/find-the-nth-term-of-a-quadratic-sequence)**,** [**249**](https://hegartymaths.com/use-the-nth-term-of-a-quadratic-sequence-1)**,** [**250**](https://hegartymaths.com/use-the-nth-term-of-a-quadratic-sequence-2) |  |  |  |
| Other Sequences: Fibonacci, Geometric, Recurrence | [**261**](https://hegartymaths.com/important-sequences)**,** [**262,**](https://hegartymaths.com/sequences-from-recurrence-relations)[**263**](https://hegartymaths.com/fibonacci-sequence)**,** [**264**](https://hegartymaths.com/geometric-sequences) |  |  |  |
| Solving Linear Equations | [**179**](https://hegartymaths.com/solve-2-step-equations-involving-multiplication)**,** [**180**](https://hegartymaths.com/solve-2-step-equations-involving-division)**,** [**181**](https://hegartymaths.com/solve-2-step-equations-x-on-denominator)**,** [**182**](https://hegartymaths.com/solve-2-step-equations-x-negative)**,** [**183**](https://hegartymaths.com/solve-3-step-equations) |  |  |  |
| Solving Linear Equations: Unknown on Both Sides | [**184**](https://hegartymaths.com/solve-equations-with-x-on-both-sides-1)**,** [**185**](https://hegartymaths.com/solve-equations-with-x-on-both-sides-2)**,** [**186**](https://hegartymaths.com/solve-equations-with-x-on-both-sides-3) |  |  |  |
| Forming and Solving Linear Equations | [**176**](https://hegartymaths.com/forming-equations)**,** [**188**](https://hegartymaths.com/set-up-solve-equations-in-context) |  |  |  |
| Solving Quadratic Equations by Factorisation | [230](https://hegartymaths.com/solving-quadratic-equations-1-by-factorising),[231](https://hegartymaths.com/solving-quadratic-equations-2-by-factorising),[232](https://hegartymaths.com/solving-quadratic-equations-3-by-factorising),[233](https://hegartymaths.com/solving-quadratic-equations-4-by-factorising),[234](https://hegartymaths.com/solving-quadratic-equations-5-inverse-operations) |  |  |  |
| Solving Quadratic Equations using the Formula | [241](https://hegartymaths.com/solving-using-the-quadratic-formula-1),[242](https://hegartymaths.com/solving-using-the-quadratic-formula-2) |  |  |  |
| **Topic List** | **Hegarty Maths** **Clip Numbers** |  |  |  |
| **Algebra (continued)** |
| Rearranging Formulae | [**280**](https://hegartymaths.com/change-the-subject-of-the-formula-1-1-step)**,** [**281**](https://hegartymaths.com/change-the-subject-of-the-formula-2-2-step)**,** [**282**](https://hegartymaths.com/change-the-subject-of-the-formula-3-negative-x)**,** [**283**](https://hegartymaths.com/change-the-subject-of-the-formula-4-x-on-denominator)**,** [**284**](https://hegartymaths.com/change-the-subject-of-the-formula-5-x-with-powers) |  |  |  |
| Substitution into Equations and Formulae | [**189**](https://hegartymaths.com/substituting-solving)**,** [**278**](https://hegartymaths.com/substitution-into-complex-formulae)**,** [**279**](https://hegartymaths.com/substitution-into-important-formulae)**,** [**287**](https://hegartymaths.com/rearrange-substitute-into-formulae) |  |  |  |
| Linear Graphs: Drawing Straight Line Graphs | [**205**](https://hegartymaths.com/drawing-line-graphs-from-coordinates)**,** [**206**](https://hegartymaths.com/straight-line-graphs-1) |  |  |  |
| Linear Graphs: Equation of a Straight Line, y = mx + c | [**207**](https://hegartymaths.com/straight-line-graphs-2)**,** [**208**](https://hegartymaths.com/straight-line-graphs-3)**,** [**209**](https://hegartymaths.com/straight-line-graphs-4)**,** [**210**](https://hegartymaths.com/straight-line-graphs-5)**,** [**211**](https://hegartymaths.com/straight-line-graphs-6)**,** [**212**](https://hegartymaths.com/straight-line-graphs-7)**,** [**213**](https://hegartymaths.com/straight-line-graphs-8) |  |  |  |
| Midpoint and Gradient of a Line Segment | [**200**](https://hegartymaths.com/midpoint-of-a-line-segment)**,** [**201**](https://hegartymaths.com/gradient-of-a-line-segment-1)**,** [**202**](https://hegartymaths.com/gradient-of-a-line-segment-2-negative)**,** [**203**](https://hegartymaths.com/gradient-of-a-line-segment-3-fractions)**,** [**204**](https://hegartymaths.com/gradient-of-a-line-segment-4-summary) |  |  |  |
| Quadratic Graphs: Drawing Quadratic Graphs | [**251**](https://hegartymaths.com/drawing-quadratic-graphs-from-a-table) |  |  |  |
| Quadratic Graphs: Properties of Quadratic Graphs | [**252**](https://hegartymaths.com/find-the-y-intercept-of-a-quadratic-graph)**,** [**253**](https://hegartymaths.com/find-the-x-intercept-roots-of-a-quadratic-graph)**,** [**254**](https://hegartymaths.com/find-the-line-of-symmetry-of-a-quadratic-graph)**,** [**255**](https://hegartymaths.com/find-the-turning-point-of-quadratic-graphs-1)**,** [**256**](https://hegartymaths.com/find-the-turning-point-of-quadratic-graphs-2)**,** [**257**](https://hegartymaths.com/sketch-a-fully-labelled-quadratic-graph) |  |  |  |
| Solving Linear and Quadratic Equations using Graphs | [**217**](https://hegartymaths.com/solving-equations-straight-lines)**,** [**260**](https://hegartymaths.com/using-a-quadratic-graph-to-solve-a-related-quadratic-equation) |  |  |  |
| Algebraic Proof | [**325**](https://hegartymaths.com/direct-algebraic-proof-1)**,** [**326**](https://hegartymaths.com/direct-algebraic-proof-2) |  |  |  |
| **Geometry and Measures** |
| Angles on Parallel Lines | [**481**](https://hegartymaths.com/alternate-angles)**,** [**482**](https://hegartymaths.com/co-interior-angles)**,** [**483**](https://hegartymaths.com/corresponding-angles) |  |  |  |
| Solving Multi-Step Angle Problems | [**488**](https://hegartymaths.com/multi-step-angle-problems-1)**,** [**489**](https://hegartymaths.com/multi-step-angle-problems-2)**,** [**490**](https://hegartymaths.com/multi-step-angle-problems-3)**,** [**491**](https://hegartymaths.com/multi-step-angle-problems-4) |  |  |  |
| Angles in Polygons (Interior and Exterior Angles) | [**561**](https://hegartymaths.com/interior-angles-in-polygons-1)**,** [**562**](https://hegartymaths.com/interior-angles-in-polygons-2)**,** [**563**](https://hegartymaths.com/exterior-angles-in-polygons-1)**,** [**564**](https://hegartymaths.com/exterior-angles-in-polygons-2) |  |  |  |
| Forming and Solving Equations with Angles | [**487**](https://hegartymaths.com/angles-in-a-triangle-3)**,** [**565**](https://hegartymaths.com/angles-in-polygons-using-algebra) |  |  |  |
| Compound and Algebraic Perimeter | [**551**](https://hegartymaths.com/perimeter-4)**,** [**552**](https://hegartymaths.com/perimeter-5) |  |  |  |
| Area of Rectangles, Triangles, Trapezia, Parallelograms | [**555**](https://hegartymaths.com/area-compound-shapes)**,** [**556**](https://hegartymaths.com/area-parallelograms)**,** [**558**](https://hegartymaths.com/area-triangles-2)**,** [**559**](https://hegartymaths.com/area-trapezium) |  |  |  |
| Circumference and Area of a Circle: The Basics | [**534**](https://hegartymaths.com/circumference-of-a-circle-1)**,** [**535**](https://hegartymaths.com/circumference-of-a-circle-2)**,** [**539**](https://hegartymaths.com/area-of-a-circle-1)**,** [**540**](https://hegartymaths.com/area-of-a-circle-2) |  |  |  |
| Perimeter and Area of Semi-Circles and Quarter-Circles | [**536**](https://hegartymaths.com/circumference-of-a-circle-3)**,** [**541**](https://hegartymaths.com/area-of-a-circle-3) |  |  |  |
| Circumference and Area of a Circle: Problem Solving | [**537**](https://hegartymaths.com/circumference-of-a-circle-4)**,** [**538**](https://hegartymaths.com/circumference-of-a-circle-5)**,** [**542**](https://hegartymaths.com/area-of-a-circle-4)**,** [**543**](https://hegartymaths.com/area-of-a-circle-5) |  |  |  |
| Arc Length and Area of Circle Sectors | [**544**](https://hegartymaths.com/arc-length-1)**,** [**545**](https://hegartymaths.com/arc-length-2)**,** [**546**](https://hegartymaths.com/area-of-a-sector-1)**,** [**547**](https://hegartymaths.com/area-of-a-sector-2) |  |  |  |
| Pythagoras’ Theorem: The Basics (including with Surds) | [**498**](https://hegartymaths.com/pythagoras-longer-side)**,** [**499**](https://hegartymaths.com/pythagoras-shorter-side)**,** [**500**](https://hegartymaths.com/pythagoras-surds) |  |  |  |
| Pythagoras’ Theorem: Problem Solving | [**501**](https://hegartymaths.com/pythagoras-applied-1)**,** [**502**](https://hegartymaths.com/pythagoras-applied-2)**,** [**503**](https://hegartymaths.com/pythagoras-multi-step-1)**,** [**504**](https://hegartymaths.com/pythagoras-multi-step-2) |  |  |  |
| Trigonometry in Right-Angled Triangles: The Basics | [**508**](https://hegartymaths.com/trigonometry-introduction)**,** [**509**](https://hegartymaths.com/trigonometry-find-side-1)**,** [**510**](https://hegartymaths.com/trigonometry-find-side-2)**,** [**511**](https://hegartymaths.com/trigonometry-find-angle-1)**,** [**512**](https://hegartymaths.com/trigonometry-find-angle-2) |  |  |  |
| Trigonometry in Right-Angled Triangles: Problem Solving | [**513**](https://hegartymaths.com/trigonometry-multi-step-1)**,** [**514**](https://hegartymaths.com/trigonometry-multi-step-2)**,** [**515**](https://hegartymaths.com/trigonometry-elevationdepression) |  |  |  |
| 3D Pythagoras’ Theorem and Trigonometry | [**505**](https://hegartymaths.com/3d-pythagoras-1)**,** [**506**](https://hegartymaths.com/3d-pythagoras-2)**,** [**507**](https://hegartymaths.com/3d-pythagoras-3) |  |  |  |
| Volume of Prisms and Cylinders: The Basics | [**569**](https://hegartymaths.com/cuboids-2)**,** [**571**](https://hegartymaths.com/prisms-2)**,** [**572**](https://hegartymaths.com/cylinders-1) |  |  |  |
| Volume of Prisms and Cylinders: Problem Solving | [**573**](https://hegartymaths.com/cylinders-2)**,** [**574**](https://hegartymaths.com/cylinders-3)**,** [**575**](https://hegartymaths.com/part-cylinders) |  |  |  |
| Similar Shapes: Lengths - The Basics | [**609**](https://hegartymaths.com/similar-polygons-2)**,** [**610**](https://hegartymaths.com/similar-polygons-3)**,** [**611**](https://hegartymaths.com/similar-triangles-1)**,** [**612**](https://hegartymaths.com/similar-triangles-2)**,** [**613**](https://hegartymaths.com/similar-triangles-3) |  |  |  |
| Similar Shapes: Areas and Volumes - The Basics | [**615**](https://hegartymaths.com/area-of-similar-shapes-1)**,** [**616**](https://hegartymaths.com/area-of-similar-shapes-2)**,** [**618**](https://hegartymaths.com/volume-of-similar-shapes-1)**,** [**619**](https://hegartymaths.com/volume-of-similar-shapes-2)**,** [**620**](https://hegartymaths.com/volume-of-similar-shapes-3) |  |  |  |
| Similar Shapes: Problem Solving | [**614**](https://hegartymaths.com/similar-shapes-problem-solving)**,** [**617**](https://hegartymaths.com/area-of-similar-shapes-3)**,** [**621**](https://hegartymaths.com/volume-of-similar-shapes-4) |  |  |  |
| Vectors (an introduction)  | 622, 623, 624, 625, 626, 627 |  |  |  |
| Vectors (simple geometry problems)  | 628, 629 |  |  |  |
| Vectors (advanced exam style)  | 630, 631, 632, 633, 634, 635, 636 |  |  |  |
| **Probability** |
| Single Event Probability | [**350**](https://hegartymaths.com/express-a-probability-in-numbers)**,** [**351**](https://hegartymaths.com/probability-of-single-events-1)**,** [**352**](https://hegartymaths.com/probability-of-single-events-2)**,** [**353**](https://hegartymaths.com/probability-of-an-event-not-happening) |  |  |  |
| Experimental Probability (Relative Frequency) | [**355**](https://hegartymaths.com/expectation)**,** [**356**](https://hegartymaths.com/experimental-probability-relative-frequency)**,** [**357**](https://hegartymaths.com/relative-frequency-testing-for-bias) |  |  |  |
| Combined Event Probability (Sample Space Diagrams) | [**358**](https://hegartymaths.com/probability-of-more-than-one-event-1)**,** [**359**](https://hegartymaths.com/probability-of-more-than-one-event-2) |  |  |  |
| Mutually Exclusive and Independent Events | [**354**](https://hegartymaths.com/mutually-exclusive-events)**,** [**360**](https://hegartymaths.com/independent-events) |  |  |  |
| Probability Tree Diagrams | [**355**](https://hegartymaths.com/expectation)**,** [**356**](https://hegartymaths.com/experimental-probability-relative-frequency)**,** [**357**](https://hegartymaths.com/relative-frequency-testing-for-bias) |  |  |  |
| Probability Tree Diagrams: Conditional Probability | [**358**](https://hegartymaths.com/probability-of-more-than-one-event-1)**,** [**359**](https://hegartymaths.com/probability-of-more-than-one-event-2)**,** [**360**](https://hegartymaths.com/independent-events) |  |  |  |
| **Topic List** | **Hegarty Maths** **Clip Numbers** |  |  |  |
| **Probability (continued)** |
| Frequency Tree Diagrams | [**368**](https://hegartymaths.com/frequency-trees-1)**,** [**369**](https://hegartymaths.com/frequency-trees-2) |  |  |  |
| Introduction to Set Theory: Set Notation | [**370**](https://hegartymaths.com/listing-elements-in-a-set-1)**,** [**371**](https://hegartymaths.com/listing-elements-in-a-set-2) |  |  |  |
| Sets and Venn Diagrams | [**372**](https://hegartymaths.com/displaying-sets-in-venn-diagrams-1)**,** [**373**](https://hegartymaths.com/displaying-sets-in-venn-diagrams-2)**,** [**374**](https://hegartymaths.com/shading-sets-in-venn-diagrams-1)**,** [**375**](https://hegartymaths.com/shading-sets-in-venn-diagrams-2)**,** [**376**](https://hegartymaths.com/shading-sets-in-venn-diagrams-3) |  |  |  |
| Probability from Venn Diagrams | [**383**](https://hegartymaths.com/venn-diagrams-for-probability-1)**,** [**384**](https://hegartymaths.com/venn-diagrams-for-probability-2) |  |  |  |
| **Extension Section** | **Hegarty Maths** **Clip Numbers** |  |  |  |
| **Algebra: Extension Topics** |
| Algebraic Fractions (including Solving Equations) | [**172**](https://hegartymaths.com/expressions-with-algebraic-fractions)**,** [**187**](https://hegartymaths.com/solve-equations-with-algebraic-fractions)**,** [**229**](https://hegartymaths.com/simplify-algebraic-fractions-involving-quadratics)**,** [**244**](https://hegartymaths.com/quadratic-equations-from-algebraic-fractions) |  |  |  |
| Simultaneous Linear Equations | [**190**](https://hegartymaths.com/simultaneous-equations-by-elimination-1-intro)**,** [**191**](https://hegartymaths.com/simultaneous-equations-by-elimination-2)**,** [**192**](https://hegartymaths.com/simultaneous-equations-by-elimination-3)**,** [**193**](https://hegartymaths.com/simultaneous-equations-by-elimination-4)**,** [**194**](https://hegartymaths.com/simultaneous-equations-by-substitution) |  |  |  |
| Forming and Solving Simultaneous Linear Equations | [**195**](https://hegartymaths.com/simultaneous-equations-in-context) |  |  |  |
| Solving Simultaneous Linear Equations using Graphs | [**218**](https://hegartymaths.com/solving-simultaneous-equations-using-straight-lines-1)**,** [**219**](https://hegartymaths.com/solving-simultaneous-equations-using-straight-lines-2) |  |  |  |
| Linear Graphs: Parallel and Perpendicular Lines | [**214**](https://hegartymaths.com/straight-line-graphs-parallel)**,** [**215**](https://hegartymaths.com/straight-line-graphs-perpendicular-1)**,** [**216**](https://hegartymaths.com/straight-line-graphs-perpendicular-2) |  |  |  |
| Linear Graphs: Using the form ax + by + c = 0 | [**220**](https://hegartymaths.com/straight-line-graphs-alternative-way-to-define) |  |  |  |
| Quadratic Equations: Completing the Square | [**235**](https://hegartymaths.com/completing-the-square-1)**,** [**236**](https://hegartymaths.com/completing-the-square-2)**,** [**237**](https://hegartymaths.com/completing-the-square-3)**,** [**238**](https://hegartymaths.com/solving-by-completing-the-square-1)**,** [**239**](https://hegartymaths.com/solving-by-completing-the-square-2)**,** [**256**](https://hegartymaths.com/find-the-turning-point-of-quadratic-graphs-2) |  |  |  |
| Quadratic Equations and Graphs: Using the Discriminant | [**243**](https://hegartymaths.com/using-the-discriminant)**,** [**258**](https://hegartymaths.com/the-discriminant-quadratic-graphs) |  |  |  |
| Forming and Solving Quadratic Equations | [**244**](https://hegartymaths.com/quadratic-equations-from-algebraic-fractions) |  |  |  |
| Simultaneous Equations involving a Quadratic Equation | [**245**](https://hegartymaths.com/quadratic-equations-in-context)**,** [**259**](https://hegartymaths.com/simultaneous-equations-using-graphs-quadratic-linear) |  |  |  |
| Linear Inequalities: Representing on a Number Line | [**265**](https://hegartymaths.com/representing-inequalities-on-a-number-line)**,** [**266**](https://hegartymaths.com/writing-inequalities-from-a-number-line)**,** [**267**](https://hegartymaths.com/integer-solutions-to-inequalities)**,** [**268**](https://hegartymaths.com/multiple-inequalities-on-a-number-line) |  |  |  |
| Solving Linear Inequalities | [**269**](https://hegartymaths.com/solve-single-linear-inequalities-1-positive-x)**,** [**270**](https://hegartymaths.com/solve-single-linear-inequalities-2-negative-x)**,** [**271**](https://hegartymaths.com/solve-single-linear-inequalities-3-difficult)**,** [**272**](https://hegartymaths.com/solve-double-linear-inequalities) |  |  |  |
| Linear Inequalities: Regions on a Graph | [**273**](https://hegartymaths.com/linear-inequalities-as-graph-regions-1)**,** [**274**](https://hegartymaths.com/linear-inequalities-as-graph-regions-2)**,** [**275**](https://hegartymaths.com/linear-inequalities-as-graph-regions-3)**,** [**276**](https://hegartymaths.com/linear-inequalities-as-graph-regions-4) |  |  |  |
| Quadratic Inequalities | [**277**](https://hegartymaths.com/solving-quadratic-inequalities) |  |  |  |
| Rearranging Formulae: Advanced | [**285**](https://hegartymaths.com/change-the-subject-of-the-formula-6-x-on-both-sides)**,** [**286**](https://hegartymaths.com/change-the-subject-of-the-formula-7-x-on-both-sidesdenominator) |  |  |  |
| Functions: Basic Notation, Domain and Range | [**288**](https://hegartymaths.com/function-notation-1)**,** [**289**](https://hegartymaths.com/function-notation-2)**,** [**290**](https://hegartymaths.com/domain-range-of-functions-1)**,** [**291**](https://hegartymaths.com/domain-range-of-functions-2)**,** [**292**](https://hegartymaths.com/restricted-domains) |  |  |  |
| Functions: Inverse and Composite Functions | [**293**](https://hegartymaths.com/composite-functions-1)**,** [**294**](https://hegartymaths.com/composite-functions-2)**,** [**295**](https://hegartymaths.com/inverse-functions-1)**,** [**296**](https://hegartymaths.com/inverse-functions-2)**,** [**297**](https://hegartymaths.com/complex-problems-with-functions) |  |  |  |
| **Geometry and Measures: Extension Topics** |
| Trigonometry in Non-Right Angled Triangles: ½abSinC | [**517**](https://hegartymaths.com/area-of-triangle-12absinc-1)**,** [**518**](https://hegartymaths.com/area-of-triangle-12absinc-2)**,** [**519**](https://hegartymaths.com/area-of-triangle-12absinc-3) |  |  |  |
| Sine Rule: The Basics | [**521**](https://hegartymaths.com/sine-rule-find-length-1)**,** [**522**](https://hegartymaths.com/sine-rule-find-length-2)**,** [**523**](https://hegartymaths.com/sine-rule-find-angle-1)**,** [**524**](https://hegartymaths.com/sine-rule-find-angle-2)**,** [**525**](https://hegartymaths.com/sine-rule-ambiguous-case) |  |  |  |
| Cosine Rule: The Basics | [**527**](https://hegartymaths.com/cosine-rule-find-side-1)**,** [**528**](https://hegartymaths.com/cosine-rule-find-side-2)**,** [**529**](https://hegartymaths.com/cosine-rule-find-angle-1)**,** [**530**](https://hegartymaths.com/cosine-rule-find-angle-2) |  |  |  |
| Sine and Cosine Rules: Problem Solving | [**532**](https://hegartymaths.com/sine-cosine-rules-multi-step-1)**,** [**533**](https://hegartymaths.com/sine-cosine-rules-multi-step-2) |  |  |  |
| Volume of Cones, Spheres and Pyramids: The Basics | [**576**](https://hegartymaths.com/cones-1)**,** [**577**](https://hegartymaths.com/cones-2)**,** [**578**](https://hegartymaths.com/frustrums)**,** [**579**](https://hegartymaths.com/rectangular-based-pyramid)**,** [**580**](https://hegartymaths.com/spheres-1)**,** [**581**](https://hegartymaths.com/spheres-2) |  |  |  |
| Advanced Volume: Problem Solving | [**582**](https://hegartymaths.com/compound-volume)**,** [**583**](https://hegartymaths.com/volume-harder-problems) |  |  |  |
| Circle Theorems: Angles inside a Circle | [**593**](https://hegartymaths.com/isosceles-triangles-in-circles)**,** [**594**](https://hegartymaths.com/circle-theorem-1)**,** [**595**](https://hegartymaths.com/circle-theorem-2)**,** [**596**](https://hegartymaths.com/circle-theorem-3)**,** [**597**](https://hegartymaths.com/circle-theorem-4) |  |  |  |
| Circle Theorems: Tangents and Chords | [**598**](https://hegartymaths.com/circle-theorem-5)**,** [**599**](https://hegartymaths.com/circle-theorem-6)**,** [**600**](https://hegartymaths.com/circle-theorem-7)**,** [**601**](https://hegartymaths.com/circle-theorem-8)**,** [**602**](https://hegartymaths.com/circle-theorem-9) |  |  |  |
| Circle Theorems: Problem Solving | [**603**](https://hegartymaths.com/circle-theorems-using-algebra)**,** [**604**](https://hegartymaths.com/circle-theorems-multi-step-1)**,** [**605**](https://hegartymaths.com/circle-theorems-multi-step-2)**,** [**606**](https://hegartymaths.com/circle-theorems-multi-step-3) |  |  |  |