|  |  |
| --- | --- |
| Basic Mathematics | |
| **SOURCE: 01** | **A-Level Mathematics** |
| 01 | [The Ultimate A-Level Maths Resource](https://www.youtube.com/watch?v=Jce5T-EBq4Y&list=PLkocNW0BSuEGm7hnEf37U7vmz1n8U-7xL&index=1&pp=iAQB) |
| 02 | Proof By Deduction |
| 03 | Proof By Exhaustion |
| 04 | Disproof By Counter Example |
| 05 | Proof By Contradiction |
| 06 | The Discriminant |
|  | Solving Linear Inequalities |
|  | Solving Quadratic Inequalities |
|  | Algebraic Long Division |
|  | The Factor Theorem |
|  | The Remainder Theorem |
|  | The Modulus Function |
|  | Modulus Equations and Inequalities |
|  | Inverse Function |
|  | Partial Fractions |
|  | Coordinate Geometry: Equation of a Straight Line |
|  | Coordinate Geometry: Equation of a Circle |
|  | Parametric Equations |
|  | Introduction to Binomial Expansions |
|  | Arithmetic Sequences |
|  | Arithmetic Series |
|  | Geometric Sequences |
|  | Geometric Series |
|  | Trigonometric Identities |
|  | Trigonometric Equations |
|  | Trigonometry: Double Angle Formula |
|  | Exponential Functions |
|  | Exponential Functions |
|  | Logarithm Function Logarithm Laws |
|  | Exponential Modelling: Growth and Decay |
|  | Differentiation from First Principles |
|  | Differentiation Rules |
|  | Differentiation: Chain Rule |
|  | Differentiation of Trigonometric Functions |
|  | Implicit Differentiation |
|  | Introduction to Integration |
|  | Integration: The Reverse Chain Rule |
|  | Integration By Substitution |
|  | Integration By Parts |
|  | First Order Differential Equations |
|  | Variance and Standard Deviation |
|  | Variance and Standard Deviation |
|  | Histograms |
|  | Probability: Mutually Exclusive Events |
|  | Probability: Venn Diagrams |
|  | Conditional Probability |
|  | Binomial Distribution |
|  | Normal Distribution |
|  | Newton-Raphson Method |
|  | Trapezium Rule |
|  | Hypothesis Testing |
| 01 | Simple Random Sampling |
| 02 | Vector: Magnitude and Direction |
| **SOURCE: 01** | **Ed-Excel A-Level Pure Mathematics – 1** |
| 03 | [Algebra and Function – 1 | Law of Indices](https://www.youtube.com/watch?v=YapJp3rKwP4&list=PLlcvR9uyH6_WS3gtoJhjWG1v0MS71OoQG&index=1&pp=iAQB) |
| 04 | Algebra and Function – 2 | Algebraic Expression |
| 05 | Algebra and Function – 3 | Quadratics |
| 06 | Algebra and Function – 4 | Quadratics |
|  | Algebra and Function – 5 | Quadratics |
|  | Algebra and Function – 6 | Challenge Questions |
|  | Algebra and Function – 7 | Linear Equations |
|  | Algebra and Function – 8 | Equations Systems |
|  | Algebra and Function – 9 | Solve Inequality |
|  | Algebra and Function – 10 | Solve Inequality |
|  | Algebra and Function – 11 | Cubic Graph |
|  | Algebra and Function – 12 | Reciprocals |
|  | Algebra and Function – 13 | Graph Transformation |
|  | Algebra and Function – 14 | Challenge Questions |
|  | Algebra and Function – 15 | Review – 1 |
|  | Algebra and Function – 16 | Review – 2 |
|  | Coordinate Geometry in the (x, y) Plane – 1 |
|  | Coordinate Geometry in the (x, y) Plane – 2 |
|  | Coordinate Geometry in the (x, y) Plane – 3 |
|  | Trigonometry – 1 |
|  | Trigonometry – 2 |
|  | Trigonometry – 3 |
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|  | Trigonometry – 6 | Review |
|  | Differentiation – 1 |
|  | Differentiation – 2 |
|  | Differentiation – 3 |
|  | Differentiation – 4 | Review |
|  | Integration – 1 |
|  | Integration – 1 | Challenge Questions |
|  | Past Paper – May / June 2020 |
| **SOURCE: 01** | **Ed-Excel A-Level Pure Mathematics – 2** |
|  | [Inequalities – 1](https://www.youtube.com/watch?v=q7_hFDbJ-5I&list=PLlcvR9uyH6_WFd-wsz-LXcjWg2n09ANIh&index=1&pp=iAQB) |
|  | Inequalities – 2 |
|  | Inequalities – 3 |
|  | Inequalities – 4 |
|  | Series – 1 |
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|  | Complex Numbers – 1 |
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|  | Complex Numbers – 4 |
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|  | Complex Numbers – 9 | Transformation |
|  | Complex Numbers – 10 | Challenge Questions |
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|  | Second Order Differential Equations – 1 |
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|  | Maclaurin and Taylor Series – 2 |
|  | Maclaurin and Taylor Series – 3 |
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|  | Polar Coordinates – 1 |
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|  | Further Pure Mathematics 2 | Question and Answer Page 44 |
|  | Further Pure Mathematics 2 | Question and Answer Page 63 |
|  | Further Pure Mathematics 2 | Question and Answer – Loops in Polar Coordinates |
|  | Further Pure Mathematics 2 | Question and Answer Page 127 Section 7A |
|  | Further Pure Mathematics 2 | Past Paper – May / June 2018 |
| **SOURCE: 01** | **Ed-Excel A-Level Pure Mathematics – 3** |
|  | [Algebra and Function – 1](https://www.youtube.com/watch?v=Y34VWHEqWW4&list=PLlcvR9uyH6_WJ5at23xB5FoxJzK4W5jiQ&index=1&pp=iAQB) |
|  | Algebra and Function – 2 |
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|  | Algebra and Function – 6 | Challenge Questions |
|  | Trigonometry – 1 |
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|  | Trigonometry – 10 | Review |
|  | Exponential and Logarithms – 1 |
|  | Exponential and Logarithms – 2 |
|  | Exponential and Logarithms – 3 |
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|  | Differentiation – 1 |
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|  | A Level Pure Mathematics 3 | Question and Answer |
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