Year 13 Pure Order of work

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| **Week**  **Beginning** | **Lesson 1** | | | | **Lesson 2** | | **Lesson 3** | **Text ref** |
|  | **Summer Holidays** | | | | | | |  |
| Winter half term 1 | **By the end of last term ALL classes finished the first 4 chapters of A2** | | | | | | |  |
| Numerical Methods: Location of roots. Iteration: Solving by iterative methods (knowledge of ‘staircase and cobweb’ diagrams). Numerical methods in Applications to modelling. The Newton-Raphson method. | | | | | | | 10ABCD Mix Ex 10 |
| Radians exact values, Arcs and Sectors, Trigonometric Equations in radians, including exact solutions.  Small Angle Approximations. | | | | | | | 5A-F + Mix Ex 5 |
| **This week can be used for Revision for the Progression Exams Season 2 including AS + A2 Topics.** | | | | | | |  |
| **PROGRESSION EXAMS SEASON 2** | | | | | | |  |
| Introduction to reciprocal trig functions. Sec, cosec & cot, definitions, identities and graphs.  Equations involving reciprocal Trig functions. Inverse Trig functions. | | | | | | | 6A-E + Mix Ex 6 |
| Addition Trig formulae Double and half angle Trig formulae, note: Geometric proof of addition formula is required.  Solving equations and proving identities using addition & double angle formulae. Trigonometric proofs. Using the form etc.  Trig problems in context. Modelling with Trig functions and **Trigonometry consolidation** | | | | | | | 7A-G  +  Mix Ex 7 |
| **28th Oct** | **HALF TERM** | | | | | | |  |
| Winter half term 2 | Parametric Equations – Sketching, Geometry, converting Parametric form to Cartesian form. Using Tig. Identities. | | | | | | | 8A-E  Mix Ex 8 |
| Trigonometry Revision | **Trigonometry Assessment (Chapters 5, 6 & 7)** | | | | | |  |
| Differentiating sin(x) and cos(x) from first principles. Differentiation of exponentials and logarithms. | | | | | | | 9AB |
| Differentiation of all Trig functions including inverse Trig functions. Parametric Differentiation. Implicit Differentiation.  Using second derivative to determine if curve is concave or convex in a given domain. Points of inflection.  Connected rates of change problems. **Differentiation consolidation** | | | | | | | 9CDE  9FGHI  9J MixEx 9 |
| Differentiation Revision | | | **Differentiation and Parametric Equations Assessment (Chapters 8 & 9)** | | | |  |
| **23rd Dec**  **30th Dec** | **Christmas Holidays** | | | | | | |  |
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| Autumn half term 1 | Integrating standard functions including Exponentials and Standard Trigonometric functions. Integrating f(*ax* + *b*).  Using trigonometric identities to find Integrals including (even and odd powers of sin*x* & cos*x*) | | | | | | | 11A-K  Mix Ex 11 |
| Integration by recognition. Using partial fractions in Integration. Integration by Parts (1). | | | | | | |
| Integration by Parts (2). Integration by Substitution. | | | | | | |
| Area under graphs or between curves, including understanding the area is the limit of a sum (using sigma notation).  The Trapezium rule. | | | | | | |
| Differential equations. Rates of change problems (Modelling). **Integration Consolidation.** | | | | | | |
| Integration Revision | | **Integration Assessment (Chapter 11)** | | | | |
| **17th Feb** | **HALF TERM** | | | | | | |  |
| Autumn half term 2 | **This week can be used for Revision for the Progression Exams Season 3 including AS Topics.** | | | | | | |  |
| **PROGRESSION EXAMS SEASON 3** | | | | | | |  |
| AS & A2 Practice Papers (Revision for Final GCE Pure Exams) + Feedback on Hard Exam questions | | | | | | |  |
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| AS & A2 Practice Papers (Revision for Final GCE Pure Exams) + Feedback on Hard Exam questions | | | | | | |  |
| **AS & A2 Practice Papers and Revision for Internal Mock Exams** | | | | | | |  |
| **7th Apr**  **14th Apr** | **Easter Holidays** | | | | | | |  |
| Summer half term 1 | **Final Internal Mock Exam** | | | | | | |  |
| **Going through the Mock Exam + Feedback** | | | | | | |  |
| AS & A2 Practice Papers (Revision for Final GCE Pure Exams) + Feedback on Hard Exam questions | | | | | | |  |
| Year 13 Study Leave (Independent learning) | | | | | | |  |
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| **26th May** | **HALF TERM** | | | | | | |  |
| **Summer half term 2** | **9MA0-01 Pure Mathematics Paper 1 (2 hours)** | | | | | **Wednesday 4th June 2025 - AFTERNOON** | |  |
| **9MA0-02 Pure Mathematics Paper 2 (2 hours)** | | | | | **Thursday 12th June 2025 - AFTERNOON** | |  |
| **9MA0-03 Statistics & Mechanics Paper 3 (2 hours)** | | | | | **Thursday 19th June 2025 - AFTERNOON** | |  |
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| **21st July** | **Summer Holidays** | | | | | | |  |