**NEW A LEVEL PLANNER – YEAR 1**

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| **W** | **Date** |  | **Topic** | **Assignment** |
| 0 | 11/9 | P | 101 Graph Transformations | 1,9 |
| 1 | 18/9 | P | 102 Co-ordinate Geometry – line including modelling with lines | 1 |
| 2 | 25/09 | P  P | 103 Quadratic: Discriminant/inequalities (linear and quadratic, including graphs)  104 Completing the square a≠1. | 2,10  3 |
| 3 | 2/10 | S  S  S  S  S | 105 Mean & Standard Deviation with grouped data (inc using calculator),  106 Coding  107 Combining data sets  108 Median and Percentiles  109 Interpolation | 1,3  1,3  1,3  2,4  2,4 |
| 4 | 9/10 | M  M | 110 Velocity/Time graphs  111 SUVAT | 1,2,4,11,16  1,2,3,5,12,18 |
| 5 | 16/10 | P  P  P  P | 112 Differentiation: gradient function  113 Equations of tangents and normal  114 Differentiation from 1st Principles  115 Increasing/decreasing functions | 4  5  6,15,17  3,11 |
| 6 | 30/10 | P  P | 116 2nd derivative and classification of turning points, including sketching gradient functions.  117 Optimisation Problems. | 4,12  7,12,13 |
| 7 | 6/11 | P  P | 118 Exponential function and log rules.  119 Modelling logarithmic relationships READ | 5,13,17  10,14 |
| 9 | 20/11 | M | 120 Forces and Newton’s laws: single particles including Friction and slopes | 2,3,6,10,12,13,17 |
| 10 | 27/11 | P  S  S  S  S  S | 121 Proof.(Exhaustion, counter-example, deduction)  122 Discrete Random Variables including Discrete Uniform  123 Probability: Venn diagrams  124 Tree diagrams  125 Probability: Two way tables  126 Conditional, mutually exclusive & independent events | 11,19  5,9  6,10  7,12  8,14  8,15 |
| 11 | 4/12 | P  P  S | 127 Trig Equations  128 Reciprocal Trig functions (and graphs)  129 Using large data set | 7,3,18  6,14,18  1-20 |
| 12 | 11/12 | P | 130 Indefinite Integration | 1,8 |
| 13 | 1/1 | P  P | 131 Pythagorean Trig Identities: proof and use in solving equations  132 Algebraic Division, Factorising cubics, Factor theorem | 5,11  1,9 |
| 14 | 8/1 | P  P | 133 Definite Integration & Areas under curves.  Integration as limit of a sum – I can’t see any questions on this | 8,10  1,9 |
| 15 | 15/1 | P  P | 135 2D/3D Vectors  136 Binomial distribution | 4,8,12  6,11,19 |
| 16 | 22/1 | M | 137 Projectiles & equations of flight paths (including 2D 3D Projectile vectors) | 4,5,11,14,15,20 |
| 17 | 29/1 | M  P | 138 Vectors (ships collisions etc)  139 Radian measure | 1,5,6,10,12,13,18  11 |
| 18 | 5/2 | P  P  P | 140 Arc length, area of sector, area of triangle, area of segment  141 Cosine rule and sine rule  142 Pythagorean Trig Identities: proof and use in solving equations | 9,12,13  13,16  1,10,17 |
| 19 | 19/2 | P | 143 Functions; Composites, domain, range, inverses | 7,15,19 |
| 20 | 26/2 | M  M | 144 Newton’s Laws.  145 Vectors problems constant acceleration, connected particles and derivatives | 3,4,8,9,11,17  7,9,9,10,14,15,19,20 |
| 21 | 5/3 | S | 146 Hypothesis testing: Binomial | 7,16 |
| 22 | 12/3 | P  P  P | 147 and ln x graphs and derivatives  148 Differentiation of trig functions, proof of sin x and cos x from first principles,  149 Chain, product, quotient rules. | 8,16,20  2,8,14  2,7,10,15 |
| 23 | 19/3 | P  P | 150 dx/dy problems  151 Arcsinx, arccosx, arctanx derivatives. | 2,6,16  1,2,8 |
| 24 | 26/3 | P | 152 Integration: reverse chain rule inc ex and lnx | 2,3,9 |
| 32 | 11/6 | P | 153 Trig: compound angle, double angle proofs | 1,3,14 |
| 33 | 18/6 | P | 154 Partial Fractions & integration using partial fractions & Reverse chain practice | 2,3,4,13 |
| 34 | 25/6 | P  P | 155 Integration of Trig Identities  156 Small angle approximations & integrating using small angle | 2,5,13  2,4,6 |
| 35 | 2/7 | P | 157 Infinite Binomial & more small angle approx. uses | 5,7,11 |
| 36 | 9/7 | P  P | 158 Trapezium Rule  159 Newton Raphson | 6,8,13 |

**2nd Year Planner**

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| **W** | **Week beginning** |  | **Topic** | **Assignment** |
| 0 | September 13th  (1 lesson) | S  P  P | 201 Histogram introduction  202 Compound and Double angle revision  203 Implicit Differentiation | 2,4  1,3,4,5,14,16,20  2,4,5,6,15,19 |
| 1 | September 17th | P | 204 Inverse Trig | 3,5,6,7,14,16 |
| 2 | September 24th | P  P | 205 Numerical Methods (sigma notation, recurrence relation, change of sign, cobweb & staircase diagrams).  206 Numerical methods in context | 4,6,7,8,13  4,5,10,15,16 |
| 3 | October 1st | S | 207 Normal Distribution | 5,7,9,11,12,14 |
| 4 | October 8th | S  M | 208 Continuity correction for Binomial Approximation  209 Moments introduction | 6,8,10,12,13  6,7,8 |
| 5 | October 15th | P  M | 210 Finite Binomial  211 Moments | 7,9,10,11,12,16  7,8,9,16,17,18,19 |
| 6 | October 29th | P | 212 R method | 8,10,11,12,15,18 |
| 7 | November 5th | P  P  S | 213 Integration by Substitution  214 Integration by parts  215 Hypothesis Testing of mean | 9,11,12,13,14,15  9,10,12,15,17,19  9,11 |
| 9 | November 19th | S | 216 Sampling | 11,13,14,15 |
| 10 | November 26th | P | 217 Forming and solving differential Equations | 12,14,15,16,18,20 |
| 11 | December 3rd | M | 218 Kinematics. Variable Acceleration. | 13,14,15,16,19,20 |
| 12 | December 10th | P | 219 Parametrics (including differentiation, integration and graphs) | 14,16,17,18,19 |
| 13 | Dec 17th Jan 3rd  (2 lessons) | S  S | 220 Histograms including dimension problems,  221 Frequency polygons | 15,16,17,18  16,17,18,19 |
| 14 | January 7th | S | 222 Product Moment Correlation Coefficient | 17,18,19,20 |
| 15 | January 14th | P  P | 223 Arithmetic Series  224 Recurrence Relation & periodic behaviour | 17,18,19,20  17,18,18,19 |
| 16 | January 21st | P | 225 Modulus & link with graphical inequalities | 17,18,19,20 |
| 17 | January 28th | S | 226 Hypothesis testing with Product Moment Correlation Coefficient | 19,20,20 |
| 18 | February 4th | P  P | 227 Graphical Inequalities  228 Geometric Series (proof sum to infinity & sum) | 20,20  20,20 |