Year 12 Maths Route Map

Week	Date	Teacher 1 - Coombeshead	Textbook	Teacher 2 - Teign	Textbook
1	5 Sept	**Y12 Quadratics** • Solving using the quadratic formula (including rearrange to give quadratic and finding factorised form from given solutions) (1)		**Y12 Surds** • Surds (1)	
2	12 Sep	• Quadratics in disguise (1) • Completing the square (1)		• Surds (2	
3	19 Sep	• Solve by completing the square (1) • Max/min/vertex by completing the square (1) • In class progress test (1)		• Surds (1) • In class progress test	
4	26 Sep	• Sketching quadratics (1) • Determining the equation of a quadratic from the graph (1)		**Y12 Binomial expansions** • Binomial expansions (2)	
5	3 Oct	• Applied completing the square (1) • Quadratic inequalities and set notation (1) • Quadratic inequalities (1)		• Binomial expansions (2)	
6	10 Oct	• Discriminants and nature of roots (2)		• Binomial expansions (1) **Y12 Discrete distributions** • Discrete distributions (1)	
7	17Oct	**Y12 Coordinate Geometry** • Coordinate geometry (3)		• Discrete distributions (1) • **Y12 Binomial distribution** • The binomial distribution (1)	
8	31 Oct	• Coordinate geometry (2)		• The binomial distribution (2)	
9	7 Nov	• Intersection of curve + line (include 'k questions' and regions where one graph is above another) (3)		• The binomial distribution (2)	

10	14 Nov	**Y12 Inequalities** • Two variable inequalities (1) **Y12 Kinematics** • Kinematics graphs (1)		• The binomial distribution (1) **Y12 Indices** • Rules of indices (1)	
		Autumn term assessment			
11	21 Nov	• Kinematics graphs (1) • SUVAT (2)		**Y12 Differentiation** • Gradient, differentiation and rates of change(2)	
12	28 Nov	• SUVAT (2)		• Differentiation fractional and negative indices (2)	
13	5 Dec	**Y12 Logs (e and ln)** • Logs and log laws (3 lessons)		• Differentiation tangents and normals (2)	
14	12 Dec	• Solving with logs (2 lessons)		• Differentiation increasing and decreasing functions (1) • Finding and categorising stationary points (1)	
15	2 Jan	• Solving equations involving $a^{f(x)}$ including exponentials on both sides and quadratics in disguise) (2)		• Finding and categorising stationary points (1) • Gradient functions (1)	
16	9 Jan	**PPEs**		**PPEs**	
17	16 Jan	• e^x and lnx simplifying (1) • e^{kx} and gradient (1)		• Optimisation (2)	
18	23 Jan	• Exponential growth and decay (2		• Differentiation from first principals (2)	
19	30 Jan	• Fitting models to data (2) **Y12 Vectors** • Vectors (1)		**Y12 Trigonometry** • Trig graphs (1) • Solve trig equations (1)	
20	6 Feb	• Vectors (2)		• Solve trig equations (2)	
21	20Feb	• Vectors (3)		• Solve trig equations (2)	

22	27 Feb	• Vectors (1) **Y12 Forces** • Newton's Laws (1)		• Trig identities (2)	
23	6 Mar	• Newton's Laws (2) • Force Diagrams (1)		• Trig identities (1) • Given trig value find another (1)	
24	13 Mar	• Motion Under Gravity (1) • Resolving Forces (1)		• Sine rule, cosine rule and 1/2absinC (1) **Y12 Integration** • Integration (1)	
25	20 Mar	• Resolving Forces (1) • Resolving Forces and Newton's Laws (not on a slope) (1) • Equilibrium (1)		• Integration (2)	
26	27 Mar	• Equilibrium (1) • Newton's laws (1) (lifts)		• Integration (2)	
27	17 Apr	• Mechanics forces (connected bodies and equilibrium) (3)		• Integration (2)	
28	24 Apr	**Y12 Polynomials** • Manipulating polynomials (2)		**Y12 Hypothesis testing for binomial** • Stats hypothesis testing (2)	
29	1 May	**PPE week**		**PPE week**	
30	8 May	• Manipulating polynomials (2)		• Stats hypothesis testing (2)	
31	15 May	• Manipulating polynomials (1) **Y12 Graphs** • Graphs (2)		**A level proof** • Proof (2)	
32	22 May	• Graphs (1)		• Proof (2)	

		Y12 Transformations • Transformations (1)			
33	5 Jun	• Transformations (3)		**Y12 Circles** • Circles (2)	
34	12 Jun	**Y12 Calculus and kinematics** • Mechanics (2) Calculus and kinematics (differentiation)		• Circles (2)	
35	19 Jun	• Mechanics (2) Calculus and kinematics (integration) **Y12 Radians** • Radians (1)		• Circles (1) **Y12 Sampling** • Stats vocab and sampling (1)	
36	26 Jun	• Radians (2)		• Stats sampling (1) **Y12 Summary statistics** • Stats measures of central tendency and standard deviation (1)	
37	3 Jul	**Y12 Algebraic fractions and Partial fractions** • Partial fractions (3)		• Stats measures of central tendency and standard deviation (1) • Stats Outliers, cleaning and presenting data (1)	
38	10 Jul	**Y12 Introduction to Y13 differentiation** • Differentiation of sinx and cosx (1) • Differentiation of lnx (1)		**Y12 Probability** • Stats mutually exclusive and independent probability (2)	
39	17 Jul	Challenge week		Challenge week	