Topic	M6 =C*C	M7 =B	M8 =A*A
1	Binary to Decimal Decimal to Binary Index laws for positive powers	Index notation for zero, positive and negative powers. Index laws in algebra Standard form. Calculate using standard form Use surds and π in exact calculations	Rational and Irrational numbers..Change recurring decimal to fraction. Surds and rationalise the denominator Index laws for integer, fractional and negative powers
2	nth term linear sequence	nth term non-linear sequences	
3		Direct proportion including graphical and algebraic	Inverse proportion including graphical and algebraic
4	Bearings Sums of interior and exterior angles of polygons		
5			Sine and cosine rules A = $\frac{1}{2}ab\sin C$ Pyth and trig 2D and 3D problems
6	Reflection in lines parallel to axes Rotate around any point Translate using vector Enlarge Whole number Scale factor and how this effects area Congruent	Combined transformations Reflections in y=±x Enlarge Whole number Scale factor and how this effects volume Lengths, areas and volumes of similar shapes	Enlargements by a negative scale factor
7	Enlarge and how it effects areas of enlarged shapes	Use the relationship between the ratios of lengths and areas of similar 2-D shapes	Use the relationship between the ratios of lengths, areas and volumes of similar 3-D shapes
8			Eq of a circle Tangent to a circle
9	Constructions and Loci		
10	Change the subject	Change the subject with power, root or more than one term,	
11	Solve two linear sim eqs graphically	Set up & solve two linear sim eqs algebraically	simultaneous equations, 1 linear and 1 non linear
12	Inequalities one variable	Inequalities with 2 variables on graph	Gradient at a point on a curve
13	Trial and improvement		
14	Listing 2 events, relative frequency, experimental prob, understand that greater sample size gives better estimate of probability	Product rule. There are mxn ways of doing m things and then n things. Mutually exclusive events P(A)+P(B) Independent events P(A)xP(B) Tree diagrams	Tree diagrams to represent successive events which are not independent
15	Generate points and plot graphs of simple quadratic functions, and use these to find approximate solutions for points of intersection lines of the form y = ±a only	Generate points and plot graphs of simple quadratic functions, and use these to find approximate solutions using y = mx + c	Find the intersection points of the graphs of a linear and quadratic function, knowing that these are the approximate solutions of the corresponding simultaneous equations representing the linear and quadratic functions where algebraic manipulation may be required
16		Recognise, sketch and interpret graphs of linear functions, quadratic functions, simple cubic functions, the reciprocal function $y = \frac{a}{x}$ with x ≠ 0	Recognise, sketch and interpret graphs of exponential functions $y = k^x$ for positive values of k e.g. growth and decay rates Set up, solve and interpret the answers in growth and decay problems, e.g. use the formula for compound interest