Year 11 Objective List – Foundation HT1

Circles:

Objective	Sparx Task	
Recall the definition of a circle and identify, name and draw parts of a circle including tangent, chord and segment;	U767	
Recall and use formulae for the circumference of a circle $2\pi r = \pi d$,	U604	
Recall and use formula: the area enclosed by a circle $= \pi r^2$; Give an answer to a question involving the circumference or area of a circle in terms of π;	U950	
Find radius or diameter, given area or perimeter of a circles;		
Find the perimeters and areas of semicircles and quarter-circles;	U221 U373	
Calculate perimeters and areas of composite shapes made from circles and parts of circles;		
Calculate arc lengths, angles and areas of sectors of circles;		
Find the surface area of a cylinder;	U464	
Find the volume of a cylinder	U915	
Find the surface area of spheres, pyramids, cones and composite solids;	U259 U871	
Find the volume of spheres, pyramids, cones and composite solids;	U484 U116	
Solve real life problems involving mixtures of SA and volumes of more complex solids	U426	

Rearranging, Simultaneous Equations & more complex Graphs:

Objective	Sparx Task	
Know the difference between an equation and an identity and use and understand the ≠ symbol;		

Change the subject of a formula involving the use of square roots and squares;	U556	
Answer 'show that' questions using consecutive integers (n, n + 1), squares a^2, b^2, even numbers 2n, and odd numbers 2n +1;		
Solve problems involving inverse proportion using graphs, and read values from graphs;		
Recognise, sketch and interpret graphs of simple cubic functions;	U980	
Write simultaneous equations to represent a situation;		
Recognise, sketch and interpret graphs of the reciprocal function with $x \neq 0$;		
Solve simultaneous equations (linear/linear) algebraically and graphically;	U760 U757	
Solve simultaneous equations representing a real-life situation, graphically and algebraically, and interpret the solution in the context of the problem;	U836	

Quadratics:

Objective	Sparx Task	
Define a 'quadratic' expression;		
Multiply together two algebraic expressions with brackets	U768	
Factorise quadratic expressions of the form x2 + bx + c;	U178	
Factorise a quadratic expression x2 – a2 using the difference of two squares;	U963	
Solve quadratic equations by factorising;	U228	
Generate points and plot graphs of simple quadratic functions,	U989	
Identify the line of symmetry of a quadratic graph;		
Find approximate solutions to quadratic equations using a graph;	U601	
Interpret graphs of quadratic functions from real-life problems;	U667	
Identify and interpret roots, intercepts and turning points of quadratic graphs.		