## Year 9 Objective List – Higher HT1

## **Number and Multiplicative Reasoning:**

Objective	Sparx Task
Evaluate expressions with brackets and powers	M237
Substituting into expressions with brackets and powers	M327
Recap of multiplying and dividing with index laws	M235, M694
Is this number in standard form?	U330, U534
Putting large numbers into standard form	U330
Putting small numbers into standard form	U534
Multiplying with standard form	U264
Adding and subtracting with standard form	U290
Find the reciprocal of an integer, decimal and fraction including mixed numbers	
Understanding what a negative power is and how to write numbers with negative powers	U694
Calculating fractional powers (unit fractions)	U235
Understand what a fractional index is i.e. power is a non unit fraction	U235
Use fractional indices in calculations	U235, U694
Solve complex problems with indices	U235, U694
Simplifying surds	U338
Multiplying surds	U633
Adding and subtracting with surds	U872
Finding perimeters of shapes with surds	U872
Finding areas of shapes with surds	U633
Solve problems with surds	U633, U872
Find data that shows direct proportion	M478
Find the equation using ratio tables	M472
Simplify ratios with fractions and decimals	M267
Set up equations to show direct proportions and solve problems	M472

Solve problems involving direct proportion to x squared and x cubed	M472	
Understand inverse proportions from ratio tables		
Set up an equation to show inverse proportions	M665	
Express a multiplicative relationship between two quantities as a ratio or a fraction, e.g. when $A:B$ are in the ratio 3:5, $A$ is of $B$ . When $4a = 7b$ , then $a = 0$ or $a:b$ is 7:4;	U676	
Solve proportion problems using the unitary method	M478	
Work out which product offers best value and consider rates of pay	M681	
Work out the multiplier for repeated proportional change as a single decimal number	U671	
Represent repeated proportional change using a multiplier raised to a power, use this to solve problems involving compound interest and depreciation	U332	