

**Further Formulae & Algebraic Expressions**

Objective	Sparx Task	
1.Rationalise the denominator of a surd.	U633 U338 U872 U499 U707 U281	
2.Simplify algebraic fractions.	U437 U103 U294	
3.Perform operations with algebraic fractions	U685 U457 U824	
4.Solve equations arising from algebraic fractions		
5.Rearrange a formula in cases where the subject appears more than once.	U556	
6.Rearrange a formula where the variables are in the denominators of fractions	U413 U573	
7.Solve algebraic proof questions that involve consecutive integers (n, n+1), squares, odd/ even integers etc.	U582	
8.Understand function notation. Carry out substitutions and solve equations that involve functions	U637	
9.Find composite functions	U448	
10.Find the inverse of a function	U996	

**Vectors and Geometric Proof**

Objective	Sparx Task	
1.Understand vectors pictorially and use column notation	U632	
2.Add and subtract vectors but understand this pictorially too. Find resultant vectors	U903	

3.Understand and use the scalar multiple of a vector and parallel vectors	U564 U660	
4.Find the length of a vector from Pythagoras.	U781	
5.Solve 2D geometric vector problems including vectors that has been divided into a given ratio	U781	
6.Use geometric proof to show collinear points and parallel vectors	U781	

## Graphs, Gradients and Areas Under Graphs

Objective	Sparx Task	
1.Recognise, sketch and interpret graphs of the reciprocal function and simple exponential graphs.	U593 U229	
2.Interpret and analyse translations of functions and graphs including linear, quadratic and cubic functions.	U445	
3.Interpret and analyse reflections of functions and graphs including linear, quadratic and cubic functions.	U598	
4.Estimate the area under a curve by dividing into trapezia.	U882	
5.Estimate the gradient of a curve at a point using tangents.	U800	
6.Use distance/time and velocity/time graphs as practical applications of areas under graphs and gradient of tangents	U562	
7.Interpret gradient and areas under graphs in other contexts.	U611	