Year 11 Objective List – Higher HT4

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	

Revision: Further Trig and Graphs

Objective	Sparx Task	
1.Know and use the sine rule in 2D (including bearings problems)	U164 U952	
2.Know and use the cosine rule in 2D (including bearings problems)	U591	
3.Apply the Pythagoras and sine/cosine rules to 3D problems	U170	
4.Know and apply the trig area formula to find areas, sides or angles	U592	
5.Use trigonometry to find lengths and angles between planes within solids.	U342 U967	
6.Recognise, sketch and interpret graphs of the three trigonometric functions	U450	
7.Know exact values of sin, cos and tan for 0, 30, 45, 60 and 90 degrees (excluding tan 90)	U627	
8.Solve problems involving special angles	U319	
9. Understand reflections of the graphs of sin, cos and tan in the x-axis and y-axis	U598	
10. Understand translations of the graphs of sin and cos in the x-axis and the y-axis	U455	

Revision: Perimeter, Area and Volume

Objective	Sparx Task	
1.Find perimeters and apply formulae for area of a triangle, rectangle, trapezium and parallelogram		
2.Find circumference and area of a circle. Include compound shapes made with parts of circles	U720	
3.Find arc lengths and sector areas	U221 U373	
4.Find surface area and volumes of prisms	U110 U464	
5.Use a formulae to find volumes of complex solids	U771 U893	
6.Find surface areas of complex solids	U334 U142	
7.Solve problems involving surface area and/or volume of 3D solids	U543 U426 U116 U350	
8.Calculate upper and lower bounds of numbers and use to perform calculations	U587	