Number PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to round to powers of 10 & integers (R)	U480/U298	
2.	Know how to round to specific decimal places and significant figures (R)	U731/U965	
3.	Know what factors, multiples and prime numbers are (R)		
4.	Know how to convert between standard form and ordinary numbers (R)		
5.	Know how to use the correct order of operations	U976	
6.	Know how to use written methods for the four operations with integers & decimals (R)	U293/U868	
7.	Know how to use rounding to estimate calculations	U225	
8.	Know how to express a number as a product of its primes (R)	U739	
9.	Know how to find the HCF and LCM of different sets of numbers using a Venn diagram (R)	U250	
10.	Know how to apply the four operations with standard form (R)	U264/U290	
11.	Know the product rule for counting	U369	
12.	Know how to write a surd in its simplest form (R)	U338	
13.	Know how to apply the four operations with surds (R)	U633/U872	
14.	Rationalise a surd	U281/U707	
		EOB Score	**/20**

Trigonometry PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to calculate the sides of right angled triangle triangles using Pythagoras' Theorem (R)	U385	
2.	Know that Pythagoras Theorem can be used to prove a triangle is right angled (R)	U385	
3.	Know how to use sine, cosine and tangent to calculate missing side lengths and angles (R)	U283/U545	
4.	Know the exact trigonometric values for sine, cosine and tangent (R)	U627	
5.	Know how to apply Pythagoras Theorem and trigonometry in multi-step problems (R)		
6.	Know how to calculate Pythagoras' Theorem in 3D shapes (R)	U541	
7.	Know how to calculate trigonometry in 3D shapes	U170	
8.	Know how to use the formula $\mathbf{1/2}\ \boldsymbol{ab}\ \mathbf{sin}\ \boldsymbol{C}$ to find the area of a triangle	U592	
9.	Know how to calculate and use the sine rule to find missing lengths	U952	
10.	Know how to calculate and use the sine rule to find missing angles	U952	
11.	Know how to calculate and use the cosine rule to find missing lengths	U591	
12.	Know how to calculate and use the cosine rule to find missing angles	U591	
13.	Know how to calculate apply Sine rule and Cosine rule in muti-step problems		
		EOB Score	**/20**

Equations PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to solve one step and two step equations (R)	U755/U325	
2.	Know how to collect like terms (R)	U105	
3.	Know how to expand single sets of brackets (R)	U179	
4.	Know how to solve equations with brackets (R)		
5.	Know how to solve equations with unknown on both sides (R)	U870	
6.	Know how to substitute positive and negative numbers into formula		
7.	Know how to form and solve equations (R)	U599	
8.	Know how to use elimination method to solve linear simultaneous equations	U760	
9.	Know how to re arrange and solve simultaneous equations	U875	
10.	Know how to form and solve pair of linear simultaneous equations from given information		
11.	Know how to solve a pair of linear simultaneous equations using graphs	U836	
12.	Know how to solve a pair of simultaneous equations (one linear, one quadratic) using graphs	U836	
13.	Know how to solve linear and equation of a circle simultaneous equations ($x^2 + y^2 = r^2$) graphically	U757	
		EOB Score	**/20**

Inequalities PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know that inequalities can be represented on a number line	U509	
2.	Know how to read and represent inequalities on a number line	U509	
3.	Know how to represent solutions to multiple inequalities on a number line	U509	
4.	Know how to solve single inequalities	U759	
5.	Know how to form and solve inequalities with unknowns on both sides	U145	
6.	Know how to write error intervals using inequalities		
7.	Know how to represent inequalities on a graph. (Regions)	U747	
8.	Know how to use inequalities to describe regions on a graph	U747	
		EOB Score	**/20**

Quadratics PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to factorise linear expressions (R)	U365	
2.	Know how to expand double brackets (R)	U768	
3.	Know how to factorise and solve quadratic expressions in the form $x^2 + bx + c$ (R)	U178/U228	
4.	Know to you factorise by difference of two squares		
5.	Know how to expand three sets of brackets (R)	U606	
6.	Know how to factorise quadratic expressions in the form $ax^2 + bx + c$	U858	
7.	Know how to solve quadratic expressions in the form $ax^2 + bx + c$	U960	
8.	Know how to solve an equation by using quadratic formula	U665	
9.	Know how to write an expression in the form $(x + p)^2 + q$ (complete the square)	U589	
10.	Know how to complete the square to identify turning points	U769	
11.	Know how to solve an equation by completing the square	U589	
12.	Know how to complete the square in the form $ax^2 + bx + c$	U397	
13.	Know how to solve quadratic inequalities	U133	
14.	Know how to solve a pair of simultaneous equations (one linear, one quadratic) algebraically	U547	
		EOB Score	**/20**

Area & Volume PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Recall and use the formulae for the area of a triangle, rectangle, trapezium and parallelograms (R)	U226/U945/ U424/U265	
2.	Know how to calculate areas and perimeters of compound shapes made from triangles and rectangles (R)	U351/U970	
3.	Know how to calculate volumes of prisms and shapes made from cubes and cuboids (R)	U786	
4.	Know how identify properties of the faces, surfaces, edges and vertices of: cubes, cuboids, prisms, cylinders, pyramids, cones and spheres (R)	U719	
5.	Know how to find the surface area of prisms using the formulae for triangles and rectangles, and other (simple) shapes with and without a diagram (R)	U259	
6.	Know how to find the volume of a prism, including a triangular prism (R)	U543	
7.	Know how to find missing lengths in prisms and cylinders, given the surface area or volume		
8.	Recall and use the formula for volume of pyramid	U484	
9.	Know how to find the surface area of a pyramid	U871	
10.	Find the surface area and volumes of compound solids constructed from cubes, cuboids, pyramids	U142	
11.	Form equations involving more complex shapes that involve area and volume and solve these equations		
		EOB Score	**/20**

Circles PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Recall the definition of a circle and identify, name and draw parts of a circle	U767	
2.	Recall and use formulae for the circumference of a circle and the area enclosed by a circle	U604/U950	
3.	Know how to give an answer to a question involving the circumference or area of a circle in terms of π;		
4.	Know how to use $\pi \approx 3.142$ or use the π button on a calculator		
5.	Know how to find the radius or diameter, given area or perimeter of a circles	U604/U950	
6.	Know how to find the perimeters and areas of semicircles and quarter-circles	U604/U950	
7.	Know how to calculate perimeters and areas of composite shapes made from circles and parts of circles	U604/U950	
8.	Know how to calculate arc lengths, angles and areas of sectors of circles	U373	
9.	Know how to find the surface area and volume of a cylinder	U464/U915	
10.	Know how to find the surface area and volume of spheres, cones and composite solids	U426/U771	
11.	Know how to use the formulae for volume and surface area of spheres and cones	U617/U893	
12.	Solve problems involving more complex shapes and solids, including segments of circles and frustums of cones	U350/U334	
13.	Know how to find the surface area and volumes of compound solids constructed from, cones, spheres, hemispheres, cylinders;	U426/U771	
14.	Form equations involving more complex shapes that involve area and volume and solve these equations		
		EOB Score	**/20**

Ratio PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to write a ratio in their simplest form (R)	U687	
2.	Write/interpret a ratio to describe a situation (R)	U687	
3.	Share a quantity in a given ratio including three-part ratios (R)	U577	
4.	Use a ratio to compare a scale model to real-life object		
5.	Compare ratios (R)	U687	
6.	Write ratios in form 1 : *m* or *m* : 1 (R)	M543	
7.	Write a linear equation from a ratio and writing a ratio from a linear equation	U676	
8.	Divide a given quantity into two or more parts in a given part : part or part : whole ratio (R)	U577	
9.	Know the fractions associated with ratios e.g. $a:b = c:d$ then $\frac{a}{b} = \frac{c}{d}$ and use the fact to find unknowns (R)		
10.	Use ratio to convert between currencies and measures (R)	U610	
11.	Know how to solve 'best buy' problems (R)		
12.	Scale up recipes (R)		
13.	Know how to combine Ratio into a 3 part ratio	U921	
14.	Change in ratio	U865	
15.	Solve ratio problems involving algebra and solving equations	U676	
		EOB Score	**/20**

Collecting Data PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Understand populations and samples and understand how different sample sizes can affect conclusions made.		
2.	Know how to construct and interpret bar charts including composite/duel bar charts (R)	U557/U363	
3.	Know how to construct and interpret stem and leaf diagrams including back-to-back (R)	U909/U200	
4.	Know how to construct and interpret pictograms (R)	U506	
5.	Know how to construct two way tables (R)	U981	
6.	Know how to calculate averages from tables including grouped frequency tables (R)	U312/U569	
7.	Know how to construct and interpret pie charts	U508/U172	
8.	Know how to construct and interpret scatter graphs (R)	U199/U277	
9.	Know how to construct frequency polygons	U840	
10.	Know how to calculate averages from a set of data including reverse mean	U291	
11.	Know how to compare the mean, median, mode and range (as appropriate) of two distributions using bar charts, dual bar charts, pictograms and back-to-back stem and leaf	U854	
12.	Know how to calculate Capture – Recapture questions	U328	
13.	Know how to construct and interpret histograms	U814/U983	
14.	Know how to construct and interpret cumulative frequency diagrams	U642/U182	
15.	Know how to construct & interpret box plots	U837/U879	
16.	Know how to compare distributions	U507	
		EOB Score	**/20**

Vectors PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to use and read vector notation graphically	U632	
2.	Know how to represented vectors as column notation	U632	
3.	Know how to calculate using column vectors - addition of vectors	U903	
4.	Know how to calculate using column vectors - subtraction of vectors	U903	
5.	Know how to calculate using column vectors - multiplied by a scalar	U564	
6.	Know that parallel vectors are multiples of each other	U660	
7.	Know that negative vectors are the same vector in the opposite direction.		
8.	Know how to solve geometric problems in 2D shapes using vectors	U781	
9.	Know how to solve geometric problems in 2D shapes where vectors are divided in a given ratio	U781	
10.	Know that parallel vectors are multiples of each other		
11.	Know how to produce proofs and reasoning to prove points are parallel	U560	
12.	Know how to produce proofs and reasoning to prove points are collinear	U560	
		EOB Score	**/20**

Probability PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	List all the possible outcomes of more than one event (R)	U369	
2.	Find the probability of mutually exclusive outcomes and events (R)	U510	
3.	Know that probabilities sum to 1 (R)	U683	
4.	Find the probability of an event not happening (R)	U683	
5.	Use the product rule to find the number of outcomes (R)	U369	
6.	Draw and use a sample space diagram to calculate probability (R)	U104	
7.	Calculate relative frequency (R)	U166	
8.	Draw and use a frequency tree to calculate probability (R)	U280	
9.	Calculate probability from a two way table (R)	U104	
10.	Draw a use a Venn diagram to calculate probability (R)	U476	
11.	Use set notation (R)	U748	
12.	Draw and use a probability tree diagram for independent events	U558	
13.	Draw and use a probability tree diagram for dependent events	U729	
14.	Draw and use a tree diagram to calculate conditional probability	U806	
15.	Draw and use a tree diagram to with algebra	U806	
		EOB Score	**/20**

Indices PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know and recall square and cubed numbers (R)	U299	
2.	Know how to find roots of numbers (square root, cube root, etc) (R)	U299	
3.	Know how to estimate solutions to roots and powers	U299	
4.	Know anything to the power of 0 is 1.		
5.	Know and use index rules for positive indices	U235	
6.	Know and use index rules for negative indices	U694	
7.	Know how to apply the laws of indices for powers of powers (R)	U662	
8.	Simplifying expressions using index laws	U662	
9.	Know how to change the base using index laws		
10.	Know and use index rules for fractional indices ***(1/a and a/b)***	U985/U772	
		EOB Score	**/20**

Sequences PLC			
No.	**Strand**	**Sparx**	**Targets**
1.	Know how to describe arithmetic and geometric sequences (R)	U498 / U958	
2.	Know how to find the next terms in a sequence (R)	U213/ U498 / U958	
3.	Know how to generate a sequence from n^{th} term (R)	U498/U958	
4.	Know how to find the rule for the n^{th} term of a linear sequence (R)	U498/U978	
5.	Know how to use the nth term to find if a number belongs in a sequence.	U958	
6.	Know how to find next terms for special sequences (Square, Cube, Triangular, Fibonacci)	U680	
7.	Know how to use the nth term to generate terms in linear and quadratic sequences	U958	
8.	Know how to find the rule of n^{th} term of quadratic sequences	U206	
9.	Know how to find the rule of n^{th} term of geometric sequences	U958	
		EOB Score	**/20**