

## End of year assessment Mathematics – Year 10 Higher revision checklist

Equipment needed:

- Pen (x2)
- Pencil
- Protractor
- Ruler
- Compass
- Calculator (for papers 2 and 3)

### Paper 1 (non-calculator)

Topic	Sparx link	Revised?
Calculating with roots and powers	U851	
Indices of the form $\frac{1}{a}$	U985	
Indices of the form $\frac{a}{b}$	U772	
Using standard form with negative indices	U534	
Estimating calculations	U225	
Simplifying fractions	U646	
Adding and subtracting fractions	U736	
Percentage change without a calculator	U773	
Adding and subtracting surds	U872	
Simplifying expressions by collecting like terms	U105	
Simplifying expressions using index laws	U662	
Factorising quadratic expressions of the form $x^2+bx+c$	U178	
Solving single inequalities	U759	
Factorising to solve quadratic equations of the form $x^2+bx+c=0$	U228	
Solving quadratic equations by completing the square	U589	
Solving quadratic equations using the quadratic formula	U665	
Substituting into position-to-term rules	U530	
Position-to-term rules for arithmetic sequences	U498	
Reading and plotting coordinates	U789	
Translating graphs	U598	
Reflecting graphs	U487	
Converting units of length, mass and capacity	U388	
Writing and simplifying ratios	U687	
Using equivalent ratios to find unknown amounts	U753	
Combining ratios	U921	
Calculating with ratios and algebra	U676	
Graphs of direct and inverse proportion	U238	
Finding the perimeter of compound shapes	U351	
Using the exact values of trigonometric ratios	U627	
Using the exact values of trigonometric ratios (Higher)	U319	
Graphs of trigonometric functions	U450	

The sine rule	U952	
Finding the area of sectors	U373	
Finding the surface area of prisms	U259	
Finding the surface area of cylinders	U464	
Understanding column vectors	U632	
Enlargement by a positive or negative scale factor	U134	
Expected results from repeated experiments	U166	
Venn diagrams with set notation	U748	
Calculating the range	U526	
Interpreting cumulative frequency graphs	U642	
Interpreting box plots	U837	

### **Paper 2 (calculator)**

<b>Topic</b>	<b>Sparx link</b>	<b>Revised?</b>
Calculating with roots and powers	U851	
Using standard form with positive indices	U330	
Using standard form with negative indices	U534	
Standard form with a calculator	U161	
Finding error intervals	U657	
Converting recurring decimals to fractions	U689	
Writing numbers as percentages of other numbers	U925	
Percentage change with a calculator	U671	
Substituting into algebraic formulae	U585	
Substituting into real-life formulae	U144	
Simplifying algebraic fractions by factorising into two brackets	U294	
Solving simultaneous equations using substitution	U757	
Solving simultaneous equations involving quadratics	U547	
Special sequences	U680	
Substituting into functions	U637	
Finding inverse functions	U996	
Finding equations of straight line graphs	U315	
Interpreting graphs of quadratic functions	U667	
Equations of circles and tangents	U567	
Calculating speed from distance-time graphs	U462	
Converting units of length, mass and capacity	U388	
Converting units of volume	U468	
Calculating with rates	U256	
Calculating with density	U910	
Converting between ratios, fractions and percentages	U176	
Sharing amounts in a given ratio	U577	
Changing ratios	U865	

Finding the perimeter of compound shapes	U351	
Problem solving: Area and perimeter of rectangles and compound shapes (Higher)	U934	
Understanding sin, cos and tan	U605	
Finding unknown sides in right-angled triangles	U283	
The cosine rule	U591	
Understanding similarity	U551	
Finding the surface area and volume of similar shapes	U110	
Identifying parts of circles	U767	
Finding the volume of cylinders	U915	
Finding the volume of spheres	U617	
Using a pair of compasses	U678	
Constructing loci	U820	
Writing probabilities as fractions	U408	
Venn diagrams	U476	
Tree diagrams for independent events	U558	
Calculating experimental probabilities	U580	
Conditional probabilities from tree diagrams	U806	
Choosing suitable averages and solving problems	U717	

### **Paper 3 (calculator)**

<b>Topic</b>	<b>Sparx link</b>	<b>Revised?</b>
Finding the highest common factor (HCF)	U529	
Finding prime numbers	U236	
Substituting into algebraic formulae	U585	
Simplifying expressions by collecting like terms	U105	
Adding and subtracting algebraic fractions	U685	
Changing the subjects of formulae	U556	
Solving single inequalities	U759	
Solving simultaneous equations using substitution	U757	
Solving simultaneous equations graphically	U836	
Substituting into iterative formulae	U434	
Position-to-term rules for arithmetic sequences	U498	
Finding equations of straight line graphs	U315	
Interpreting equations of straight line graphs	U669	
Equations of parallel lines	U377	
Equations of parallel and perpendicular lines	U898	
Graphs of exponential functions	U229	
Estimating areas under non-linear graphs	U882	
Equations of circles and tangents	U567	
Calculating with pressure	U527	
Solving direct proportion word problems	U721	

Interpreting direct proportion equations	U640	
Line and shape properties	U121	
Symmetry	U849	
Angles on a line and about a point	U390	
Angles in polygons	U427	
Trigonometry in 3D shapes	U170	
Understanding similarity	U551	
Finding unknown sides in similar shapes	U578	
Alternate segment theorem	U130	
Using Pythagoras' theorem in 2D	U385	
Adding and subtracting column vectors	U903	
Identifying parallel vectors	U660	
Writing probabilities as fractions	U408	
Probabilities of mutually exclusive events	U683	
Tree diagrams for dependent events	U729	
Conditional probabilities from tree diagrams	U806	
Interpreting histograms	U983	