

Knowledge Organiser - Mathematics

Quadratic graphs, Angles, Bearings, Transforming shapes, Similarity,
Congruence

	Trust CMPONICRIVA LEA	5 5	Congruence		
	Topic	Information	Examples	Sparx clip	
1	Plotting and interpreting quadratic graphs	Plotting quadratic graphs is drawing up a table of values for the x and y coordinates, and then plotting these on a set of axes. Quadratic graphs are graphs of quadratic functions - that is, any function which has $2x^2$ as its highest power.	$y = x^2 + 2x + 5$ is a quadratic function. $\begin{array}{cccccccccccccccccccccccccccccccccccc$	U585, U741, U989, U667, U601.	
2	Angles	Interior angles are the angles within a polygon made by two sides. We can calculate the sum of the interior angles of a polygon by subtracting 2 from the number of sides and then multiplying by 180°. Exterior angles are the angles between a polygon and the extended line from the next side. The sum of the exterior angles of a polygon is always equal to 360°.	Pentagon $180^{\circ} \times 3 = 540^{\circ}$ $180^{\circ} \times 3 = 540^{\circ}$ Hexagon $180^{\circ} \times 4 = 720^{\circ}$ $180^{\circ} \times 5 = 900^{\circ}$	U390, U730, U628, U732, U121, U665, U826, U329, U427.	
3	Bearings	Bearings are angles, measured clockwise from north.	The diagram shows three points A, B and P. North A B B B B B B B	U447, U826, U329, U427.	
4	Transforming shapes	Transformations change the size and/or the position of a shape. There are four geometric types of transformations: reflection, enlargement, rotation, translation.	mirror line -5	U196, U799, U696, U519, M881	
5	Similarity	Similar shapes are two or more shapes which are the same shape, but different sizes. One shape is an enlargement of the other.	These two triangles are similar.	U721, U551, U578	
6	Congruence	Congruent shapes are shapes that are the same shape and the same size.	These two triangles are congruent.	U790, U866, U187	