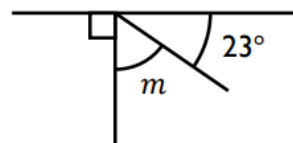
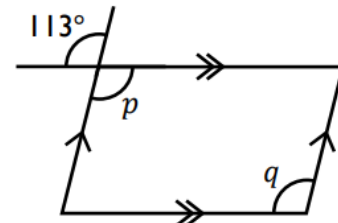
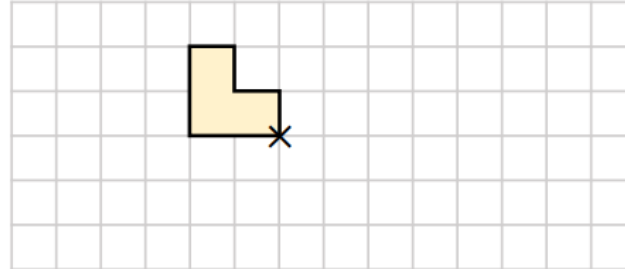


Topics in this cycle:	Taught: Spring 2	Year Group: 9
Key knowledge/concepts to be learnt ('Tell me about...')		Websites/blogs/YouTube links and further reading to deepen and consolidate learning
<p>Deduction</p> <ul style="list-style-type: none"> • Angles in parallel lines • Angle problems • Angle problems with algebra • Conjecture with angles • Conjecture with shapes <p>Rotation & translation</p> <ul style="list-style-type: none"> • Rotational symmetry vs line symmetry • Rotate a shape about a point • Translate points and shapes by a vector • Compare rotation and reflection of shapes • Find the result of a series of transformations <p>Pythagoras</p> <ul style="list-style-type: none"> • Determine whether a triangle is right-angled • Calculate the hypotenuse of a right angled triangle • Missing sides • Coordinate distance • Pythagoras' theorem in 3D 		<p> https://vimeo.com/509894521 https://vimeo.com/509895143 https://vimeo.com/509895684 https://vimeo.com/515220729 </p> <p> https://vimeo.com/516750060 https://vimeo.com/516750304 https://vimeo.com/518618837 https://vimeo.com/518622283 </p> <p> https://vimeo.com/521971114 https://vimeo.com/521971544 </p>

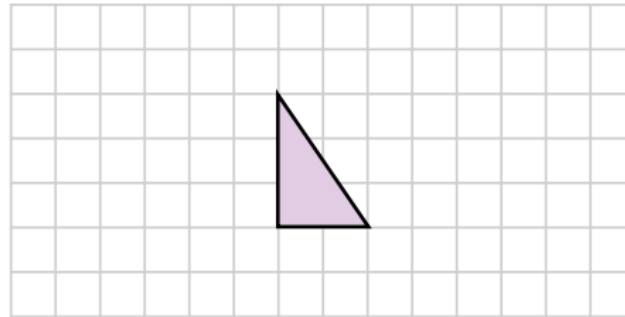
Key Vocabulary and Definitions To Be Learnt		What Will The Assessment Look Like?
Alternate angles	Are on different sides of transversal line, forming a 'z shape'	<p>Work out the size of the angles marked with letters. Give a reason for each answer.</p>  <p>$m = \underline{\hspace{2cm}}^\circ$</p>  <p>$p = \underline{\hspace{2cm}}^\circ$</p> <p>$q = \underline{\hspace{2cm}}^\circ$</p>
Corresponding angles	Are on the same side of transversal line forming an 'f shape'	
Co-interior angles	Are between parallel lines, forming a 'c shape'	
Transversal line	A line that crosses a set of parallel lines	
Parallel lines	Never meet, they are equidistant	
Perpendicular lines	Meet under 90 degree angle	
Bisect	Split into two identical halves	
Polygon	Enclosed 2D shape with straight lines	

		<p>Decide whether each statement is always, sometimes or never true. Circle your answers.</p> <p>Opposite angles in a rhombus are equal.</p> <p>Always Sometimes Never</p> <p>A quadrilateral with a pair of parallel sides has at least one line of symmetry.</p> <p>Always Sometimes Never</p> <p>The angles in a triangle are $(5x - 3)^\circ$, $(9x)^\circ$ and $(3x + 13)^\circ$. Show that the triangle is right-angled.</p>
--	--	---

Rotate the shape 90° anti-clockwise about point x .

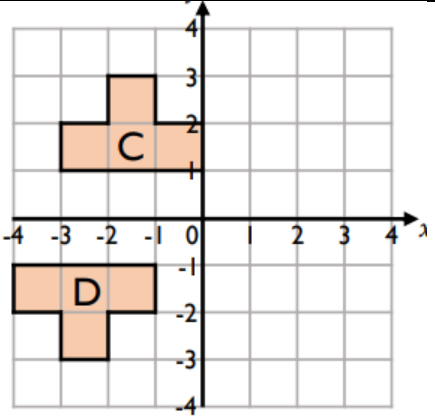


Translate the shape by the vector $\begin{pmatrix} 4 \\ -1 \end{pmatrix}$.

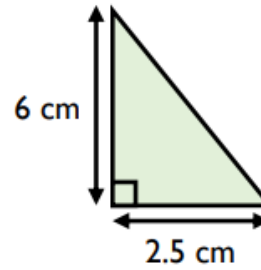


--	--

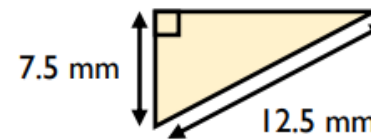
Describe the transformation that maps shape C onto shape D.



Calculate the length of the unknown side in each triangle.

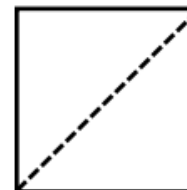


_____ cm



_____ mm

The perimeter of the square is 36 m.
Work out the length of its diagonal.



		Family Learning Opportunities
		<p>Support your child at completing their homework and to boost SparxMaths XP level.</p> <p>Consider the following discussion points:</p> <p>Deduction:</p> <ul style="list-style-type: none"> • Constructions and reasoning: What is the same and what is different about ‘drawing’ and ‘constructing’? What angles can be constructing without a protractor? Why does the construction work? <p>Rotation & translation:</p> <ul style="list-style-type: none"> • Series of transformations: Which transformation should you do first? Why? Why do you not start with the original shape when performing the second transformation? <p>Pythagoras:</p> <ul style="list-style-type: none"> • Pythagoras’ Theorem in 3D: What is the same and what id different between using Pythagoras’ Theorem in 2D and 3D? What is the greatest distance between vertices in a cube? Why might drawing a right-angled triangle be useful when finding the length of a diagonal in a 3D shape?