

Scheme of Learning: Year 9 Spring Term

Topic Sequence: Reasoning with Geometry

9	10	11
Deduction	Rotation and Translation	Pythagoras' theorem

Topic Overview: Deduction

Building on the study of line symmetry and reflection in year 8, students now look at rotational symmetry and rotation. They then move on to study translations which are described in vector form. They compare the different effects of the transformations studied so far, noticing that objects and images are congruent.

Lesson Sequence:

Identify the order of rotational symmetry of a shape:

This small step introduces students to the idea of rotational symmetry and finding the order of rotational symmetry of a shape.

Compare and contrast rotational symmetry with lines of symmetry:

This step revises line symmetry from year 8 and compares it with rotational symmetry. It's important that students understand that the number of lines of symmetry a shape has is not necessarily equal to the order of its rotational symmetry

Rotate a shape around a point:

Students rotate shapes using a centre of rotation both inside and outside their given shape, considering how the position of the centre affects the position of the image

Translate points and shapes by a given vector:

In this step students translate both points and shapes by a given vector. Students will have seen translations previously in KS2 but the idea of describing the translation using a vector is new learning.

Compare rotation and reflection of shapes:

Students should be able to perform both rotations and reflections and compare the two. Work may be extended to consider variant and invariant points and lines within this

Find the result of a series of transformations (H)

Students have so far studied single transformations and looked into them in detail. This step provides the opportunity to perform a series of transformations. Students explore how changing the order affects the final image

Sequence of Lessons:		Topic Resources	
1	Identify the order of rotational symmetry of a shape:	Knowledge Maps	Transformations
		Assessment:	
2	Compare and contrast rotational symmetry with lines of symmetry:	Knowledge:	End of Topic test
3	Rotate a shape around a point	Application of Knowledge:	Termly mixed topic assessment
		Supportive Reading:	
5	Compare rotation and reflection of shapes:		Sparx Maths: www.sparxmaths.co.uk Corbettmaths: www.corbettmaths.com AQA Revision Guide
6	Find the result of a series of transformations (H)		