

# Scheme of Learning: Year 9 Spring Term

## Topic Sequence: Reasoning with Geometry

9	10	11
Deduction	Rotation and Translation	Pythagoras' theorem

## Topic Overview: Deduction

In this block, students will revise and extend their knowledge of angle rules and properties of shapes, applying them to increasingly complex problems. The block also builds on the ideas of the earlier Testing conjectures block looking at deduction in a geometric rather than algebraic and numerical contexts. Students also revise the constructions covered in Year 8 and look more deeply at how and why these work.

## Lesson Sequence:

### Angles in parallel lines (R)

This review step provides students with a reminder of the rules connecting the angles formed by a pair of parallel lines and a transversal. Knowledge of basic angle rules such as angles at a point, angles on a straight line and vertically opposite angles is also needed.

### Solving angle problems (using chains of reasoning)

Building on the previous step, students now look at more complex problems with more steps of working. The focus is the use of correct mathematical language as students begin to use longer chains of reasoning.

### Angles problems with algebra

In this step, students interleave the forming and solving of equations with their use of the angles rules.

### Conjectures with angles

Here students revisit the ideas of "True or false" and "Always, Sometimes, Never true?" in the context of angles.

### Conjectures with shapes

Students will revisit the properties of shapes as well as the differences between the various types of quadrilaterals and symmetry whilst investigating conjectures.

### Link constructions and geometrical reasoning (H)

Students will have the opportunity to revisit the standard constructions with ruler and compasses in this step. Students will be challenged to see the links between the properties of shapes formed and the bisectors.

Sequence of Lessons:		Topic Resources	
1	Angles in parallel lines (R)	<b>Knowledge Maps</b>	Angles 2D shapes
2	Solving angle problems (using chains of reasoning)	<b>Assessment:</b>	
3	Angles problems with algebra	<b>Knowledge:</b>	End of Topic test
4	Conjectures with angles	<b>Application of Knowledge:</b>	Termly mixed topic assessment
5	Conjectures with shapes	<b>Supportive Reading:</b>	
6	Link constructions and geometrical reasoning (H)	Sparx Maths: <a href="http://www.sparxmaths.co.uk">www.sparxmaths.co.uk</a> Corbettmaths: <a href="http://www.corbettmaths.com">www.corbettmaths.com</a> AQA Revision Guide	