Stage 9 Simple Geometric Proofs

WHAT DO WE ALREADY know?

- Know angle facts including angles around a point, meeting on a straight line, in a triangle, in parallel lines and those vertically opposite.
- Know the properties of special quadrilaterals.
- Know Pythagoras' Theorem.

THE BIG PICTURE

- Explore the congruence of triangles.
- Investigate geometrical situations.
- Form conjectures.
- Create a mathematical opinion.

KEYWORDS

- Congruent
- Similar
- Hypotenuse
- Pythagoras
- Conjecture
- Proof
- Vertically opposite
- Counterexample
- Parallel
- Triangle

Success Criteria	Before Topic	After Topic	Teacher Mark
Apply angle facts to derive results about angles and sides.			
Create a geometrical proof.			
Know the conditions for triangles to be congruent (SAS, SSS, ASA and RHS).			
Know that reflected, rotated and translated shapes are congruent.			
Know that enlarged shapes are similar.			
Prove two triangles are similar, for example, if all three angles are the same.			
Use the conditions for congruent triangles.			
Use congruence in geometrical proofs.			
Solve geometrical problems involving similarity.			
Calculate missing lengths in similar shapes.			
Compare lengths, areas and volumes using ratio notation and scale factors.			
Calculate areas and volumes of similar objects.			
Know what a Pythagorean triple is.			

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