

### Congruence, Similarity & Enlargement

- Enlarge a shape by a positive integer scale factor R
- Enlarge a shape by a fractional scale factor R
- Enlarge a shape by a negative scale factor H
- Identify similar shapes
- Work out missing sides & angles in a pair given similar shapes R
- Use parallel line rules to work out missing angles
- Establish a pair of triangles similar
- Explore areas of similar shapes H
- Explore volumes of similar shapes H
- Solve mixed problems involving similar shapes H
- Understand the difference between congruence and similarity
- Understand and use conditions for congruent triangles
- Prove a pair of triangles are congruent H

H denotes Higher Tier GCSE content

R denotes Review step

### Trigonometry

- Explore ratio in similar right-angled triangles
- Work fluently with the hypotenuse, opposite and adjacent sides
- Use the tangent ratio to find missing side lengths
- Use the sine and cosine ratio to find missing side lengths
- Use sine, cosine and tangent to find missing side lengths
- Use sine, cosine and tangent to find missing angles
- Calculate sides in right-angled triangles using Pythagoras' Theorem R
- Select the appropriate method to solve right-angled triangle problems
- Work with key angles in right-angled triangles



### Trigonometry

- Use trigonometry in 3-D shapes H
- Use the formula  $\frac{1}{2} a b \sin C$  to find the area of a triangle H
- Understand and use the sine rule to find missing lengths H
- Understand and use the sine rule to find missing angles H
- Understand and use the cosine rule to find missing lengths H
- Understand and use the cosine rule to find missing angles H
- Choosing and using the sine and cosine rules H

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### Equations and Inequalities

- Understand the meaning of a solution
- Form and solve one-step and two-step equations R
- Form and solve one-step and two-step inequalities R
- Show solutions to inequalities on a number line
- Interpret representations on number lines as inequalities
- Represent solutions to inequalities using set notation H
- Draw straight line graphs R
- Find solutions to equations using straight line graphs
- Represent solutions to single inequalities on a graph H
- Represent solutions to multiple inequalities on a graph H
- Form and solve equations with unknowns on both sides R
- Form and solve inequalities with unknowns on both sides
- Form and solve more complex equations and inequalities
- Solve quadratic equations by factorisation H
- Solve quadratic inequalities in our variable H

# Simultaneous Equations

- Understand that equations can have more than one solution
- Determine whether a given  $(x, y)$  is a solution to a pair of linear simultaneous equations
- Solve a pair of linear simultaneous equations by substituting a known variable
- Solve a pair of linear simultaneous equations by substituting an expression
- Solve a pair of linear simultaneous equations using graphs
- Solve a pair of linear simultaneous equations by subtracting equations
- Solve a pair of linear simultaneous equations by adding equations
- Use a given equation to derive related facts
- Solve a pair of linear simultaneous equations by adjusting one equation
- Solve a pair of linear simultaneous equations by adjusting both equations
- Form a pair of linear simultaneous equations from given information
- Form and solve pair of linear simultaneous equations from given information
- Determine whether a given  $(x, y)$  is a solution to both a linear and quadratic equation H
- Solve a pair of simultaneous equations (one linear, one quadratic) using graphs H
- Solve a pair of simultaneous equations (one linear, one quadratic) algebraically H
- Solve a pair of simultaneous equations involving a third unknown H