A perfect fit

Teacher notes

Why use this resource?

This problem initially appears to be one of accurate construction, however in order to do this students must make a well-formed chain of reasoning involving sensible labelling of the diagram and congruent triangles. For students to engage with the second part of the problem they must extend their reasoning to explore a specific case. In order to develop an algebraic argument students may need to form simultaneous equations and apply some "bigger picture" thinking so as to be able to draw conclusions.

Opportunities to make connections between the algebraic and geometric representations of the problem are abundant and are developed further in the **Generalising** section.

Preparation

Print the scaffolded template for support if necessary.

Possible approach

It may be helpful for students to work in groups but the task can be completed individually. A useful plenary would be to ask a pair of students to explain their reasoning to the rest of the class.

Key questions

What connections can you make between the algebra and the geometry?

Possible support

A scaffolded template for students to use is provided in the **Suggestion** to help break down the problem.