Prime triangles

Teacher notes

Why use this resource?

Prime triangles gives students the opportunity to appreciate different ways of thinking about a problem, through concepts that are likely to be familiar to them.

Possible approach

Whilst the algebraic approach to the problem is neat, students may miss out on being able to explain why it works if they haven't thought numerically or geometrically first, so encouraging students to start with these approaches may be beneficial.

Possible support

Students have a tendency to use a brute force method and start trying every triangular number if they aren't sure how else to approach the problem. If this is the case, encourage them to look at the first 12 - 15 triangular numbers, and see if they can spot any patterns that mean they don't have to try every single one.

If students are stuck on a geometric approach, then the Suggestion contains an image that may help them think of redrawing the triangles as rectangles.

Possible extension

Students could be asked to come up with multiple ways to justify their answer.