**When three sides work**

**Introduction:** This task explores the relationship between sides of triangles and their lengths.

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| **Part 1**   1. Construct a triangle with side lengths of 5, 6 and 8 centimetres. 2. Let *p*, *q* and *r* be three positive integers. Find a relation between *p*, *q* and *r* which means that these numbers could represent the lengths of the three sides of a triangle, for any kind of triangle.   **Part 2**   1. Construct a triangle with side lengths of 9, 12 and 15 centimetres.   Identify the type of triangle that you have constructed.   1. Find some other combinations of integer side lengths that can be used to construct the same type of triangle and explain why this is the case. |