

Pairs of Heron and right triangles with a common area and a common perimeter

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Abstract. A Heron triangle is one in which the side lengths and area are integers. An integral right triangle is an example of a Heron triangle. In this paper, we show that there are infinitely many pairs of integral right triangles and Heron triangles with a common area and common perimeter, continuing a line of similar results with other pairs of geometric shapes. This result is established using the theory of elliptic curves.

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