Fermat's Christmas Theorem

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Last update: December 26, 2020

Fermat's Christmas Theorem (aka Fermat's Theorem on sums of two squares) states that any odd prime number p can be expressed as

$$p = r^2 + s^2$$

where $r, s \in \mathbb{N}$, if and only if p is congruent to 1 modulo 4.