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On a generalized Kaplansky conjecture. (English summary)

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In this paper, the author proves that for a positive integer n , n not a perfect square and $n = a^2 + b^2$ for some positive integers a and b , with a odd, if both $x^2 - ny^2 = -1$ and $X^2 - nY^2 = -c^2$ have primitive solutions for some positive integer c such that $(a, c) = 1$, then there exists a factorization $n = rs$ such that $rw^2 - sz^2 = ad$ has a solution, where d is a positive divisor of σc , with $\sigma = 2$ if n is odd and c is even, and $\sigma = 1$ otherwise.

Reviewed by *Shao Wei Zhang*

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