

Problem 2 (due Monday, September 28)

Let \mathbb{N}_0 be the set $\{0, 1, 2, \dots\}$ of all non-negative integers. Find all functions $f: \mathbb{N}_0 \rightarrow \mathbb{N}_0$ such that $f(a^2 + b^2) = f(a)^2 + f(b)^2$ for all a, b in \mathbb{N}_0 .

No complete solution was received. Partial solutions submitted by Yuqiao Huang, Maxwell T Meyers, and Matthew Pressimone. Detailed solution is discussed in the following link [Solution](#)

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Last update: **2020/10/01 05:16**

