

Homework 3: Functions and Quadratic Equations

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Problem 1.

Find all functions $f : \mathbb{R} \rightarrow \mathbb{R}$ such that $f(x^2) = 4x^2 + 4x + 1$.

Problem 2.

Let $ABCD$ be a circumscribed quadrilateral. Show that if the center of the circle inscribed in $ABCD$ coincides with the intersection of the diagonals of $ABCD$, then $ABCD$ is a rhombus.