

Determine the parameters $a, b \in \mathbb{R}$ in the following function definition

$$v(x) := \begin{cases} ax + b & \text{for } 0 \leq x < 1, \\ 1 - x^2 & \text{for } 1 \leq x \leq 2, \end{cases}$$

such that $v \in V_1$.

$$a = \boxed{} \quad , \quad b = \boxed{} .$$