

Mysterious Proof: Main Theorem

Lean Proof Extraction

Theorem Statement

The following theorem is derived from the Lean definition `main_theorem`.

Theorem 1. *There exists a sequence of integers $(b_n)_{n=1}^{\infty}$ such that for all n , $b_n \in \{1, 2, 3, 4, 5\}$, and there exists a rational number $q \in \mathbb{Q}$ satisfying:*

$$\sum_{n=1}^{\infty} \frac{1}{2^n + b_n} = q$$