

悪魔の階段 — 殆ど至る所微分が0だが... —

$$f(x) := \lim_{n \rightarrow \infty} f_n(x) \quad (x \in [0, 1]),$$

$$f_n(x) = \begin{cases} x & \text{if } n = 0, \\ \frac{1}{2} \left\{ \chi_{[0,1/3]}(x) f_{n-1}(3x) + \chi_{(1/3,2/3)}(x) \right. \\ \quad \left. + \chi_{[2/3,1]}(x) (f_{n-1}(3x-2) + 1) \right\} & \text{if } n \geq 1, \end{cases}$$

