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This month's "free sample" is:

3911. *Proposé par Paul Bracken.*

Soit $x_0 \in (0, 1 - 1/a]$, où $a > 1$, et soit la suite définie par $x_n = x_{n-1} - x_{n-1}^2$ pour $n \in \mathbb{N}$. Démontrer que x_n satisfait les inégalités

$$\frac{x_0}{anx_0 + 1} < x_n < \frac{x_0}{nx_0 + 1}, \quad n \in \mathbb{N}.$$

.....

3911. *Proposed by Paul Bracken.*

Let $x_0 \in (0, 1 - 1/a]$, where $a > 1$, and define the sequence $x_n = x_{n-1} - x_{n-1}^2$ for $n \in \mathbb{N}$. Prove that x_n satisfies the inequalities

$$\frac{x_0}{anx_0 + 1} < x_n < \frac{x_0}{nx_0 + 1}, \quad n \in \mathbb{N}.$$

