PoTW 11: Week of 8-5-2021

Problem of the Week at shsmathteam.com

Submission form: link to submit

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Problem of the Week #11: OhMo

Number Theory

Let $\{F_n\}_{n \geq 0}$ be the usually defined Fibonacci sequence ($F_0 = 0$, $F_1 = 1$). Suppose that d is the largest positive integer such that, for all integers $n \geq 0$, d divides $F_{n+420} - F_n$. Compute the remainder when d is divided by 130.