Problem of the Month
Problem 2: November 2022

Hint

(b) What is $\phi + \dfrac{1}{\phi}$?

(d) One way to prove the first fact is to show that if there are two consecutive digits equal to 1, then there is a base ϕ expansion with fewer non-zero digits. To prove the second fact, use the same idea as in the proof of the first fact, but in reverse.