

NUMBER THEORY: CLASS 2

1. EXERCISE

1) Show for the closed form formula of L_n where

$$L_n = L_{n-1} + L_{n-2} \text{ and } L_1 = 1 \text{ and } L_2 = 3.$$

(L_n is called Lucas numbers.)

In problem 2,3, let f_n be the n^{th} Fibonacci numbers.

2) Prove $f_{n+3} - f_n = 2f_{n+1}$.

3) Find $\lim_{n \rightarrow \infty} f_n^{\frac{1}{n}}$.

4) Use Sieve method to find all the primes less than 70.