Bilkent University
Department of Mathematics

Problem Of The Month

Term: December 2020

Let N be the total number of bijective functions

$$f : \{1, 2, \ldots, 2020\} \to \{1, 2, \ldots, 2020\}$$

satisfying $f(f(f(k))) = k$ for all $k = 1, 2, \ldots, 2020$. Show that N is divisible by 3^{336}.