

University of Colorado
Department of Mathematics
Problem of the Month
December 2020 - January 2021

Let $p(x) \in \mathbb{Z}[x]$ be a polynomial with integer coefficients of degree $m > 1$. Let $q(x) = p(p(\cdots p(p(x)) \cdots))$ be the composition of p with itself n times. Show that q has at most m integer fixed points. (That is, show that there are at most m integer solutions to the equation $q(x) = x$.)