



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: November 2012

Let m and n , $m < n$, be relatively prime positive integers. Assume that there exist two infinite sequences $\{a_i\}$ and $\{b_i\}$ with periods m and n respectively such that $a_i = b_i$ for $i = 1, 2, \dots, 2012$. What is the minimal possible value of n ?

(A sequence $\{a_i\}$ is said to be a periodic sequence with period p if $a_{i+p} = a_i$ for all i and p is the smallest positive integer satisfying this condition).