Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: October 2008

Let $\mathbb{Z}$ be the set of all integers. Prove that there is no function $f : \mathbb{Z} \to \mathbb{Z}$ such that for any $m, n \in \mathbb{Z}$

$$f(n) - f(n + f(m)) = m.$$