



Bilkent University
Department of Mathematics

PROBLEM OF THE MONTH

Term: January 2008

Find all functions $f : \mathbf{R} \rightarrow \mathbf{R}$ such that $f(2007) = 2008$ and for each $x, y \in \mathbf{R}$

$$f(4xy) = 2y(f(x + y) + f(x - y)).$$