**Bilkent University
Department of Mathematics**

PROBLEM OF THE MONTH

Term: September 2015

A real number t is said to be 10-*quadratic* if for some integer numbers a, b, c satisfying $1 \le |a|, |b|, |c| \le 10$ we have $at^2 + bt + c = 0$. Find the smallest positive integer n for which at least one of the intervals

$$\left(n - \frac{1}{3},\ n \right) \text{ and } \left(n,\ n + \frac{1}{3} \right)$$

does not contain any 10-quadratic number.