PROBLEM OF THE MONTH, APRIL 2017

Solution - Problem of the Month, March 2016

Congratulations to Jason Belanger, Michael Nino, Laura Xiong, Richard Deokic, Leonard Arkhanhelskyi, and Mazrahul Onim for solving correctly the March Problem!

Find a positive integer n such that the first seven digits of n^2 are all equal to 7.

There are infinitely many solutions, the smallest of which is $n = 8819171$. For this choice of n we have

$$n^2 = 77777777127241$$