Problem of the Week #11
1/30/2022 to 2/12/2023

Suppose $A$ is a number made up of an even number of digits, all of which are 1’s, and $B$ is a number made up of half as many digits of $A$, all of which are 4’s. Prove that $A + B + 1$ is a perfect square.

Solutions for this problem can be submitted to Dr. Brian Miceli at bmiceli@trinity.edu. People who submit solutions will be acknowledged on the next problem. If you like these problems, you may be interested in the Putnam Exam, and more information on the Putnam Exam may be found [HERE](#).

Solutions to the previous problem were submitted by Ziad Aramouni (Lebanon), M.V. Channakeshava (India), Ritwik Chaudhuri (India), Quentin Finn (alum), Evan Fu (Beaverton, OR), Rob Hill (Gambrills, MD), Kipp Johnson (Beaverton, OR), Hari Kishan (India), Tengiz Kutchava (Georgia, the country), Tin Lam (St. Louis, MO), Jason Lee (Maryland), Yann Michel (Paris, France), François Seguin (Amiens, France), and Zurab Zakaradze (Georgia, the country).