Problem of the Week #10
1/25/2021 to 2/7/2021

Let \( n \) be a given positive integer and \( A = \frac{1 \cdot 3 \cdot 5 \cdots (2n - 1)}{2 \cdot 4 \cdot 6 \cdots 2n} \). How many terms of the infinite sequence \( A, 2A, 4A, 8A, \ldots, 2^k A, \ldots \) are integers?

Solutions to the last problem were submitted by Phil Boyd (Manchester, England), M.V. Channakeshava (India), T.J. Gaffney (Las Vegas, NV), Rob Hill (Gambrills, MD), Kipp Johnson (Beaverton, OR), Hari Kishan (India), Tengiz Kutchava (Georgia, the country), Yann Michel (Paris, France), François Seguin (Amiens, France), and Zurab Zakaradze (Georgia, the country).

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](#).