Problem of the Week #10
1/17/2022 to 1/30/2022

The harmonic series, \( \sum_{n=1}^{\infty} \frac{1}{n} \), is a well-known divergent sum. If we were to remove from this sum any term in which \( n \) has a 9 somewhere in its decimal representation, is this new sum convergent or divergent?

Solutions to the last problem were submitted by Evan Fu (Beaverton, OR), Rob Hill (Gambrills, MD), Tin Lam (St. Louis, MO), Yann Michel (Paris, France), Luciano Santos (Portugal), 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](#).