Problem of the Week #9
12/21/2020 to 1/24/2021

(Due to the extended winter break and Trinity not starting up again until late January, this will be the last problem for a few weeks . . . but it is one of my favorites. Please have a fun, safe, healthy, and wonderful New Year!)

When $4444^{4444}$ is written in decimal notation, the sum of its digits is $A$. Let $B$ be the sum of the digits of $A$. Find the sum of the digits of $B$.

Solutions to the last problem were submitted by Suliko Bolkavadze (Georgia, the country), Phil Boyd (Manchester, England), Matthew A. Brom (Troy, NY), M.V. Channakeshava (India), T.J. Gaffney (Las Vegas, NV), Rob Hill (Gambrills, MD), Lincoln James (Austin, TX), Kipp Johnson (Beaverton, OR), Hari Kishan (India), Tengiz Kutchava (Georgia, the country), Yann Michel (Paris, France), Surajit Rajagopal (India), Luciano Santos (Portugal), François Seguin (Amiens, France), A. Teitelman (Israel), 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](https://www.math.wisc.edu/~jimm/putnam/).