



# MATH PROBLEM OF THE WEEK

Fall 2023

## Problem 7

Prove that for some integer  $k > 1$ ,  $3^k$  ends with 0001 (in its decimal representation).

**We welcome solutions from everyone. The undergraduate participant from the NMSU main campus with the most correct solutions at the end of the semester will receive an award of \$500.**

Solutions must be mathematically rigorous and originally obtained by the participants. Participants will be notified if their solutions are correct within a week.

**Deadline: Monday, November 20, 10 am**

Next problem will be posted on November 20

**Send solutions to: [mathpotw@nmsu.edu](mailto:mathpotw@nmsu.edu)**

**More information at: <https://math.nmsu.edu/activities/math-problem-of-the-week.html>**