



MATH PROBLEM OF THE WEEK

Spring 2022

Problem 8

Let a_1, a_2, a_3, \dots be a strictly increasing sequence of positive integers. Show that the series

$$\sum_{n=1}^{\infty} \frac{a_{n+1} - a_n}{a_n}$$

diverges.

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, April 25, 10 am

Send solutions to: mathpotw@nmsu.edu

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