



MATH PROBLEM OF THE WEEK

Fall 2022

Problem 1

If f is a function from \mathbb{R} to \mathbb{R} such that

$$f(x)f(y) = f(x + y) + f(x - y)$$

and $f(1) = 3$, then what is the value of $f(7)$?

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, September 26, 10 am

Next problem will be posted on October 3

Send solutions to: mathpotw@nmsu.edu
More information at: <https://math.nmsu.edu/activities/math-problem-of-the-week.html>