



# MATH PROBLEM OF THE WEEK

Fall 2023

## Problem 2

If  $a$  and  $b$  are two real numbers such that  $a+b = \sqrt{14}$  and  $a-b = \sqrt{12}$ .  
Then find the value of

$$x = 2ab(a^2 + b^2).$$

**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, October 16, 10 am**

Next problem will be posted on October 16

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

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