

WMU Math Club

Math Challenge Problem

December 2022

The Problem.

Prove: If n is an integer which is neither a multiple of 2 nor a multiple of 3, then $n^2 - 1$ is a multiple of 24.

Instructions.

1. Solve the problem.
2. Type your solution to the problem, preferably in $\text{T}_\text{E}\text{X}/\text{L}\text{A}\text{T}_\text{E}\text{X}$.
3. Email your solution to `david.richter@wmich.edu` before January 1, 2023.

More Information. If you submit the best solution, explained clearly and completely (and succinctly), then your solution will be posted on the WMU Math Club bulletin board next month, you will be recognized as the winner during the next meeting of the WMU Math Club, and you will receive a prize (probably a book). All undergraduate and graduate students may submit solutions. Please include your name in your write-up. Please make contact with Prof. David Richter if you have any questions.

Report from Last Month. Among the two responses received, only Alice Hoover submitted a correct answer. $\sqrt{\mathbf{W}}$