



Problems – 09/04/2025
The solutions to the problems below
will be published on Sunday 09/07/2025

Problem 1. Find the remainder of the division of the number

$$13^{2024} + 14^{2024} + 15^{2024}$$

by 7.

Problem 2. On farm A there are 12 cows, each of which gives 15 liters of milk per day. On farm B there are 6 fewer cows than on farm A , and each cow from farm B gives 11 liters more milk per day than a cow from farm A . One day the farmers decided to exchange cows:

- a) 4 cows were transferred from farm A to farm B
- b) 2 cows were transferred from farm B to farm A .

The cows do not change their milk yield, regardless of which farm they are on. Calculate how much milk per day farm A and farm B will now produce after this exchange, and how many cows there are on each farm.

Good Luck!

We encourage you to submit your solutions via the website:
[https://mathlovers.eu/submit-solution/!](https://mathlovers.eu/submit-solution/)