



Problems 12/25/2025
Solutions to the problems below
will be published on Sunday 12/28/2025



Problem 1. Find the number of pairs (a, b) smaller than their respective moduli for which the system of congruences

$$\begin{cases} x \equiv a \pmod{15}, \\ x \equiv b \pmod{12} \end{cases}$$

has a solution.

Good luck!

We encourage you to submit your solutions via the website
<https://mathlovers.eu/submit-solution/>!