MathLovers

Problems 09-/29/2025

Solutions to the following problems
will be published on Thursday 10/02/2025

Problem 1. If N is a positive integer, how many integers lie between $\sqrt{N^2+N+1}$ and $\sqrt{9N^2+N+1}$?

Problem 2. Knowing that:

$$\begin{cases} a+b+c=4 \\ a^2+b^2+c^2=14 \end{cases}$$

determine

$$(a-b)^2+(b-c)^2+(c-a)^2.$$

Good luck!

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