



MathLovers

Problems – 10/02/2025

The solutions to the problems below
will be published on Sunday 10/05/2025

Problem 1. The real numbers x and y satisfy the inequality $x^2 + x \leq y$.
Prove that $y^2 + y \geq x$.

Problem 2. Given triangle ABC . The line tangent to the circumcircle of this triangle drawn from point C intersects line AB at point S . Prove that

$$\frac{AS}{SB} = \left(\frac{AC}{CB} \right)^2.$$

Good Luck!

We encourage you to submit your solutions via the website:

<https://mathlovers.eu/submit-solution/>!