



MathLovers

Problems – 09/01/2025

The solutions to the problems below
will be published on Thursday 09/04/2025

- Problem 1.** On a right triangle ABC a circumscribed circle with center O and radius R is constructed. On the arc BC (not containing point A) a point D is marked such that triangle ABD is equilateral.

Compute the area of triangle ABC in terms of R .

- Problem 2.** How many 6-digit numbers are there such that:

- a) No digit is repeated
- b) The digits are arranged in increasing order (from left to right)

Good Luck!

We encourage you to submit your solutions via the website:

[https://mathlovers.eu/submit-solution/!](https://mathlovers.eu/submit-solution/)