



Problems – 08/04/2025

The solutions to the problems below
will be published on Thursday 08/07/2025

- Problem 1.** We are given five numbers: a_1 , a_2 , a_3 , a_4 , and a_5 . Their sum is equal to S . Furthermore, for each $k \in \{1, 2, \dots, 5\}$, we have $a_k = k + S$. What is the value of S ?
- Problem 2.** Given a triangle $\triangle ABC$. On side AB , a point D is chosen such that $AD : DB = 1 : 2$, and on side AC , a point E is chosen such that $AE : EC = 2 : 1$. Determine the ratio of the area of triangle $\triangle ADE$ to the area of quadrilateral $DBCE$.

Good luck!

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