



MathLovers

Problems for 20.10.2025
Solutions to the problems below
will be published on Thursday, 24.10.2025

- Problem 1.** There are 6 people at a meeting. Some pairs of people are friends. Prove that there exists a group of three people such that either all of them know each other, or none of them do.
- Problem 2.** Let $ABCD$ be a parallelogram and M the intersection point of its diagonals. Prove that the perpendicular projections of point B onto the lines AC , CD , and AD , together with point M , are concyclic.

Good luck!

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