# EXAM FOR "LINEAR ALGEBRA 4" (6LAG4)
## SUMMER SEMESTER 2023/2024

**1.** Describe the Fano plane: what kind of structure it is, its properties, why it is remarkable.

**2.** The group of motions of an Euclidean affine space: definition, properties, relation to the orthogonal group.

**3.**
**1)** Let $a_1, \ldots, a_n$ be points in an affine space. Does the expression $a_1 - a_2 + a_3 - \cdots + (-1)^{n+1} a_n$ (alternating signs sum) make sense?
**2)** Let $a_1, a_2, a_3$ be points in an affine space. Describe geometrically the set of all barycentric combinations of these points with positive coefficients.