WILLIAM KOCAY, University of Manitoba

Non-Fano Quads in Finite Projective Planes

Given a finite projective plane of order n. A quadrangle consists of four points A, B, C, D, no three collinear. If the diagonal points are non-collinear, the quadrangle is called a non-Fano quad. A general theorem is proved on the distibution of points and lines in a plane of order n, with respect to a non-Fano quad, whenever $n \ge 7$. The theorem implies that the number of possible distributions of points in a plane of order n is limited for all $n \ge 7$.