

UNIVERSITY OF DELAWARE
DEPARTMENT OF MATHEMATICAL SCIENCES
DISCRETE MATHEMATICS SEMINAR

Friday May 16, 2003, 4:00pm, Room 436 Ewing Hall

Regularity in Finite Generalized Quadrangles

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A finite generalized quadrangle (GQ) is a partial linear space with no triangles and the maximum number possible of ordinary 4-gons. The points and lines of the quadric surface $Q(4, q)$ in 4-dimensional space over the field $\text{GF}(q)$ form a classical example. We start by defining a GQ with parameters (s, t) and then do some elementary counting that involves basic combinatorial configurations that may or may not exist in a given GQ. A main goal is to study the notion of “regular” point or line. The talk is really a first introduction to finite GQ with emphasis on basic combinatorial properties. Complete proofs will be given for the early results and we will finish by stating some tantalizing open problems.