

1125-05-818

Liz Lane-Harvard*, elaneharvard@uco.edu. *Strongly Regular Graphs from Arcs in Non-Desarguesian Planes*. Preliminary report.

Utilizing ovals in Desarguesian projective planes, Tits, in 1968, was able to construct generalized quadrangles. In 1969 and 1971, utilizing hyperovals in Desarguesian projective planes, Ahrens-Szekeres and Hall were able to construct generalized quadrangles. Similarly, in 1985, Payne constructed generalized quadrangles from q -arcs in Desarguesian projective planes. The concurrency graph of a generalized quadrangle is a strongly regular graph; hence, the above generalized quadrangles are associated with strongly regular graphs. We have removed the hypothesis that the plane must be Desarguesian, and we construct strongly regular graphs with the same parameters as the concurrency graphs of the generalized quadrangles arising from ovals, hyperovals, and q -arcs. (Received September 12, 2016)