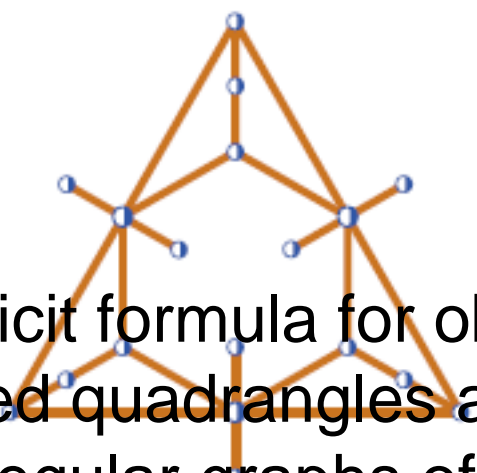


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An explicit formula for obtaining generalized quadrangles and others small regular graphs of girth 8

Content :

Let q be a prime power. Minimal $(q+1,8)$ -cages have been constructed as a non-degenerate quadric surface in projective 4-space $PG(4, q)$. The first contribution of this paper is a construction of these graphs in an alternative way by means of an explicit formula using graphical terminology. Furthermore we derive k -regular graphs of girth 8 for $k \leq q$ having the smallest number of vertices known so far.

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