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The Classification of Regular Cayley Maps for Cyclic Groups

Content :

A regular Cayley map for the cyclic group A can be defined algebraically as a group with specified generators x, y , where x is an involution, having a complementary factorization AY , where Y is the subgroup generated by y . A complete classification is given for regular Cayley maps for the cyclic group of order n , depending only on a unit $r \pmod n$, if n is odd, or $\pmod{n/2}$, if n is even, where r satisfies certain technical conditions. Necessary and sufficient conditions on r are given for the map to be reflexible, balanced, t -balanced, or not balanced. In addition, all such maps are enumerated.

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