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Algebraic conjugacy of irreducible characters of a group $GL(2, 8)$. (Russian. English summary)
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Summary: The structure of the tables of characters for groups $GL(2, q)$ is known for a long time. However, with setting a specific value for $q$, its finding in explicit form can be very difficult because even calculating numbers, which determine the position of characters in the table, requires considerable effort. It also turns out that specific values of some characters can’t be easy for calculating because of nontrivial relations between roots of 1 of various degrees. In the work a table of the characters of the group $GL(2, 8)$, construction of which demonstrated the difficulties above, is presented explicitly. In particular, there are discovered interesting connections between the roots of 1 degree 21. Algebraic conjugacy of the characters of the group $GL(2, 8)$ is fully defined, which allowed to calculate the rank of the group of central units of the integral group ring of this group.

MSC:
20-XX Group theory and generalizations
22-XX Topological groups, Lie groups

Keywords:
character; table of characters; group ring; central unit of group ring; rank of group of central units

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References:

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