nation of them is an invariant of G. We can find* a product of such combinations which has integral coefficients and vanishes at any assigned point, not a special point. Thus the invariant is the product of one or more such products.

For d odd, a non-special point is one of pd conjugates under G. We now use the absolute invariants y^{pd}, λ^d.

THEOREM. *As a fundamental system of invariants of a group of transformations* (1), *we may take* y *and* λ.

In particular, this theorem yields the seminvariant leaders of invariants of two pairs of cogredient variables.

UNIVERSITY OF CHICAGO,
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ON SOME SYSTEMS OF COLLINEATION GROUPS.

BY DR. HOWARD H. MITCHELL.

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§ 1.

SOME systems of collineation groups which arise in connection with the theory of elliptic functions have been investigated by Klein† and Hurwitz‡. One of them is a system in n variables each group of which contains an invariant subgroup of order n^2. For n a prime the quotient group with respect to this invariant subgroup is (1, 1) isomorphic with the modular group on two indices of order $n(n^2 - 1)$. The group in three variables is the Hessian group of order 216.

For n odd there is also an invariant subgroup of order $2n^2$, and there exist two other groups in $(n - 1)/2$ and $(n + 1)/2$ variables each of which is isomorphic with the quotient group with respect to this subgroup. Thus for $n = 5$ there is both a binary and a ternary G_{60} and for $n = 7$ both a ternary and a quaternary G_{168}.

Similar systems of groups in n^2, $(n^2 - 1)/2$, and $(n^2 + 1)/2$ variables which arise in the theory of hyperelliptic functions

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* Dickson, *Trans. Amer. Math. Soc.*, vol. 12 (1911), p. 4.

† *Math. Annalen*, vol. 15 (1879), p. 275; also Klein-Fricke, Modulfunktionen (2) 5.

‡ *Math. Annalen*, vol. 27 (1885), p. 198.