of congruent or symmetric divisions begin with 1, 1, 2, 3, 6, 9, 24, · · · . The divisions themselves may be classified, for a fixed point, according to the next point in the same subset. We obtain once more the recursion formula leading to $c_n = C_{2n,n}/(n+1)$.

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INDEPENDENCE OF RESULTANTS

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In this note it is proved that the resultants of m forms, of a sufficiently high degree, in n variables are independent functions of the coefficients of the forms. The proof demands some lemmas on irreducible manifolds, and on monomial manifolds. A *monomial manifold* is defined by equalities between *monomials*, that is, products of powers of the coordinates.

In the evaluation of the number of independent hypersurface cross ratios and generalized intersections given in two other notes[1] I have assumed the above theorem to be true for $2n-1 \leqq m \leqq 2n+1$ and, in the case of intersections, where one of the forms is supposed to be linear for $2n-2 \leqq m \leqq 2n$.

The *resultant* $r = r(a_1, \cdots, a_n)$ of n forms a_k of positive degree d_k in n variables x_k within an (algebraically) closed field is uniquely defined as an irreducible polynomial in the coefficients of the forms such that $r=1$ if a_k is a power of x_k and $r=0$ if and only if values x_k, not all of them 0, exist for which all $a_k=0$. The resultant is *almost symmetric*, that is, it becomes r or $-r$ if the forms are permuted. The resultant is *multiplicative* in the sense that if a form a_k is a product of forms, then r is the product of the resultants obtained by replacing a_k by each of its factors.[2]

THEOREM 1. *The $C_{m,n}$ resultants that can be formed of m forms $a_1, \cdots, a_m$ in n variables are independent functions of the coefficients of the forms, provided that the degree d_k of a_k exceeds a bound depending only on k and n.*

Received by the editors September 16, 1946.

[1] *The hypersurface cross ratio*, Bull. Amer. Math. Soc. vol. 51 (1945) pp. 976–984, §3.6, and *Relations between hypersurface cross ratios, and a combinatorial formula for partitions of a polygon, for permanent preponderance, and for non-associative products*, Bull. Amer. Math. Soc. vol. 54 (1948) pp. 352–360.

[2] All these properties of the resultant are well known. Cf. also §1.1 of the before mentioned note *The hypersurface cross ratio.*