THE FEBRUARY MEETING IN NEW HAVEN

The five hundred thirty-second meeting of the American Mathematical Society was held at Yale University in New Haven, Connecticut, on Saturday, February 23, 1957. The meeting was attended by about 130 persons including 110 members of the Society.

By invitation of the Committee to Select Hour Speakers for Eastern Sectional Meetings Professor J. T. Tate of Harvard University delivered an address entitled *Class formations* at a general session presided over by Professor A. A. Albert. Sessions for contributed papers were held in the morning and afternoon, presided over by Professor Nathan Jacobson and Dr. E. C. Schlesinger.

Abstracts of the papers presented follow. Those having the letter "*t*" after their numbers were read by title. Where a paper has more than one author, the paper was presented by that author whose name is followed by "(p)". Mr. Bomberault was introduced by Mr. Michael Held.

ALGEBRA AND THEORY OF NUMBERS

349*t*. J. W. Andrushkiw: *A note on elimination.*

Let $f(z)=a_0z^n+\cdots+a_n$, $g(z)=b_0z^m+\cdots+b_m$, $a_0\neq 0$, $b_0\neq 0$, $n>m$, be polynomials with complex coefficients, and denote by $r_1, r_2, \cdots, r_n$, $r_i\neq r_j$, $i\neq j$, the roots of $f(z)$. If s_k are the coefficients in expansion $g(z)/f(z)=\sum_{k=0}^{\infty} s_k z^{-k-1}$, it follows that (1) $\sum s_i a_j=0$, $i+j=h$, $h=0, 1, \cdots, n-m-2; n, n+1, \cdots$, and $\sum s_i a_j=b_k$, $i+j=h$, $h=n-m-1+k$, $k=0, 1, \cdots, m$; (2) for $i, j=1, 2, \cdots, n-k$; $k=0, 1, \cdots, m$ there is $\|s_i+j-2\|=\sum_{\lambda>\mu}^{1,n-k}\prod(r_{i_\lambda}-r_{i_\mu})^2 g(r_{i_1})g(r_{i_2})\cdots g(r_{i_{n-k}})/f'(r_{i_1})f'(r_{i_2})\cdots f'(r_{i_{n-k}})$ $=(-1)^{C(n-m,2)}a_0^{k-n-m}A_{n+m-2k}$ where A_{n+m-2k} are the principal diagonal minors of $n+m-2k$ order of A_{n+m}. The elements of A_{n+m} are the coefficients of $f(z)$ and $g(z)$, and the summation is taken over all combinations of $n-k$ roots. If $r_1=r_2=\cdots r_s=r$, the factors $f'(r_1), \cdots, f'(r_s)$ have to be replaced by $f^{(s)}(r)$, and in the product occur only differences of distinct roots. If r also a root of $g(z)$, the factors $g(r_1), \cdots, g(r_s)$ have to be replaced by $g^{(p)}(r)$ where $g^{(p)}(z)$ is a proper derivative depending upon the multiplicity of r. The relation is still true if $n=m$; (3) $f(z)$ and $g(z)$ have exactly k common roots if and only if $A_{n+m}=A_{n+m-2}=\cdots=A_{n+m-2k+2}=0$, $A_{n+m-2k}\neq 0$. The determinant A_{n+m} is related to the resultant $R(f, g)$ by the equation $A_{n+m}=(-1)^{C(n,2)-C(n-m,2)}R(f, g)$. If $g(z)=f'(z)$, A_{n+m}/a_0 =represents the discriminant $D(f)$. (Received December 31, 1956.)

350*t*. Maurice Auslander and Alex Rosenberg: *Dimension of prime ideals in polynomial rings.*

Let R be a commutative ring and let p be a prime ideal in R such that R_p is a regular local ring. Let P be a prime ideal in $S=R[x_1, \cdots, x_n]$ with $R\cap P=p$ and denote the transcendence degree of $S-P$ over $R-p$ by d_P. Using homological methods we then show that rank $P+d_P$ =rank $p+n$. If R is a Dedekind ring, P and Q two prime