By Theorem 2, the solutions of the equation (17) are given by (16).

If $x_i=\rho_i$, $y_k=\sigma_k$ is any solution of (13) and we choose $\alpha_i=\rho_i$, $\mu_k=\sigma_k$, $\lambda=f(\rho)$, we have that $s=0$ and the solution becomes $x_i=\rho_iK^{n-1}$, $y_k=\sigma_kK^{n+1}$, where $K=A\lambda(AD-BC)$, which is equivalent to the given solution provided $K\neq 0$; that is, provided $x_i=\rho_i$, $y_k=\sigma_k$ is not a solution of (14). It will be noted that if $K\neq 0$, then $t\neq 0$.

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A MULTIPLE NULL-CORRESPONDENCE AND A SPACE CREMONA INVOLUTION OF ORDER $2n-1$[1]

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PART I. A NULL-SYSTEM $(1, mn, m+n)$ BETWEEN THE PLANES AND POINTS OF SPACE $(m, n=1, 2, 3, \cdots)$

1. **Introduction.** Consider a curve δ_m of order m having $m-1$ points in common with a straight line d, and a curve δ_n' of order n having $n-1$ points in common with a straight line d', $(m, n=1, 2, 3, \cdots)$. It is assumed for the present that neither δ_m nor d intersects either δ_n' or d'.

In general, through any point P of space there passes one ray ρ which intersects δ_m once and d once, and one ray ρ' which intersects δ_n' once and d' once; ρ and ρ' determine a plane π, the null-plane of P. Conversely, a plane π determines m rays ρ_i and n rays ρ_j' lying in it which intersect, a ray ρ with a ray ρ', in mn points, the null-points of the plane π.

Any point α in general position determines a ray ρ. As α describes a line l, the plane π of ρ and l contains n rays ρ', which intersect l in n points β; conversely, any point β on l determines a ray ρ' which determines with l the plane π, and π contains m rays ρ which intersect l in m points α—one being the original α. Thus an (m, n) correspondence is set up among the points of l with valence zero; there are $m+n$ coincidences and therefore $m+n$ points on any line l whose null-planes contain l.

2. **Planes whose null-points behave peculiarly.** We can obtain the last result by another method; this will yield additional information about planes whose null-points behave peculiarly.

Let a plane π turn about a line l as axis. A ruled surface will be generated by the m rays ρ_i lying in π. This surface is of order $m+1$; δ_m is a onefold curve on the surface and d is an m-fold line. Another

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