of a homeomorphism in the sense of Antoine.* From Theorem 2, p. 394, of the paper just cited, we can obtain a theorem for A-extending a homeomorphism between two subsets of spheres.

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A PROPERTY OF THE SOLUTIONS OF $t^2-du^2=4$

BY GORDON PALL

Let p be any odd prime not dividing d. The integral solutions t_i, u_i, $(i=0,\pm 1, \cdots)$,† of $t^2-du^2=4$ have the following property.

THEOREM. *Let* $m+n=r+s$. *Let* v *stand for* t *or* u. *Then* $v_m+v_n\equiv v_r+v_s$ (mod p) *if and only if the terms are congruent in pairs*;‡ *the same holds for each of*

$$v_m - v_n \equiv v_r - v_s, \quad v_m + v_n \equiv -(v_r + v_s), \quad v_m - v_n \equiv -(v_r - v_s).$$

For if $m+n$ is even and $v=u$, we can write $m=h+i$, $n=h-i$, $r=h+j$, $s=h-j$, whence

$$u_m + u_n = u_h t_i, \quad u_r + u_s = u_h t_j;$$

if $u_h=0$, then $u_m\equiv -u_n$; if $t_i\equiv t_j$, known conditions for two u's or t's to be congruent show that $u_m=u_r$ or u_s. The remaining cases are similar. If $m+n$ is odd, we transpose terms, and find with a little attention to parities $(u_i=-u_{-i},\ t_i=t_{-i})$ one or other of the former cases.

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* H. M. Gehman, *On extending a correspondence in the sense of Antoine*, American Journal of Mathematics, vol. 51 (1929), pp. 385–396.

† For notations see, for example, Pall, Transactions of this Society, vol. 35 (1933), p. 501.

‡ That is, $v_m\equiv -v_n$, v_r, or v_s.