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P R O B L È M E S

P 416, R 1. K. K. Kubota has constructed a series of counter-examples and proved that in the particular case, if at least one of the considered polynomials is injective, the answer is positive (1). The latter result has been extended to polynomials of many variables by D. J. Lewis (2).

X. 1, p. 187.

(1) K. K. Kubota, *Note on a conjecture of W. Narkiewicz*, Journal of Number Theory 4 (1972), p. 181-190.

(2) D. J. Lewis, *Invariant sets of morphisms on projective and affine number spaces*, Journal of Algebra 20 (1972), p. 419-434.

P 744, R 1. J. H. V. Hunt and E. D. Tymchatyn have informed us that they answered the problem by proving the following theorem:

Let X be a Peano space which is expressible as a union of unicoherent regions $U_1 \subset \overline{U}_1 \subset U_2 \subset \overline{U}_2 \subset \ldots$ with compact closures. If $A_1, A_2, \ldots$ is a sequence of disjoint closed sets no one of which separates X, then $X - \bigcup_{n=1}^{\infty} A_n$ is connected (3).

XXIII. 2, p. 326. Letter of August 21, 1972.

(3) J. H. V. Hunt and E. D. Tymchatyn, *The theorem of Miss Mullikin-Mazurkiewicz - van Est for unicoherent Peano spaces*, Fundamenta Mathematicae 77 (1973), p. 285-287.

P 749, R 1. As Professor Roland E. Larson has observed (4), the problem in the general case (i.e., for the lattice of all topologies) is easily answered in the affirmative by combining the two known results:

1. Any lattice is isomorphic to a sublattice of all equivalence relations on some set (5).

(4) Letter of May 2, 1972.

(5) P. Whitman, *Lattices, equivalences relations, and subgroups*, Bulletin of the American Mathematical Society 52 (1946), p. 507-522.

2. The lattice of partition topologies on a set X is a sublattice of the lattice of all topologies on X ([6]).

Using Larson's observation, Richard Valent shows in this fascicle ([7]) that the answer is affirmative also for the case of the lattice of all T_1-topologies on a set.

Independently, but also using Whitman's result ([5]), Rosický has proved ([8]) that the answer remains affirmative even for the lattice of all completely Hausdorff topologies but fails for the lattice of all metrisable topologies.

XXIII. 2, p. 326.

([6]) R. Vaidyanathaswamy, *Treatise on set topology*, Indian Mathematical Society, Madras 1947.

([7]) Richard Valent, *Every lattice is embeddable in the lattice of T_1-topologies*, this fascicle, p. 27-28.

([8]) J. Rosický, *Embeddings of lattices in the lattice of topologies*, Archivum Mathematicum (Brno) (to appear).

B. M. SCHEIN (SARATOV)

P 850. Formulé dans la communication *Compatible function semigroups.*

Ce fascicule, p. 26.

KAMIL D. JOSHI (BLOOMINGTON, INDIANA)

P 851 et **P 852.** Formulés dans la communication *Characterizing plane ANR's by existence of local means.*

Ce fascicule, p. 44 et 46.

K. M. GARG (EDMONTON, ALBERTA)

P 853. Formulé dans la communication *Monotonicity, continuity and levels of Darboux functions.*

Ce fascicule, p. 100.

J. MUSIELAK (POZNAŃ)

P 854. Is the following conjecture true:

If a function $x(t)$ defined in R^n has derivatives $x^{(k)}(t)$, $k = 0, 1, \ldots,$

belonging to $L^p(-\infty, \infty)$, where $1 \leqslant p < \infty$, then

$$\sup_k \int_{-\infty}^{\infty} |x^{(k)}(t)|^p \, dt < \infty$$

if and only if $x(t)$ can be extended to an integer function of exponential type 1?

New Scottish Book, Probl. 875, 19. 5. 1972.

H. J. BOTHE (BERLIN)

P 855. Let G be the complete graph with 6 vertices piecewise-linearly embedded in the euclidean 3-dimensional space. Are there two disjoint simple closed polygons in G which are linked homotopically (homologically)?

New Scottish Book, Probl. 876, 20. 5. 1972.