## Věra Trnková A note on product of topological spaces (Preliminary communication)

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A NOTE ON PRODUCT OF TOPOLOGICAL SPACES (Preliminary communication)

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Let X be a topological space. Define an equivalence  $\sim$  on the set N of all natural numbers such that  $m \sim m$  iff  $X^m$  is homeomorphic to  $X^n$ . Clearly,  $\sim$  is a congruence on the additive semigroup (N, +). The following theorem is fulfilled:

<u>Theorem</u>. For every congruence  $\sim$  on (N, +) there exists a locally compact separable metric space X such that  $X^m$  is homeomorphic to  $X^n$  iff  $m \sim m$ .

This result and some related questions will appear in Fundamenta Mathematicae under the title " $\chi^m$  is homeomorphic to  $\chi^m$  iff  $m \sim m$  where  $\sim$  is a congruence on natural numbers".

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