

Thm 3.30: char property refers to Thm 3.27

Proof idea:

$f = \text{id}$ then $\pi_i \circ f = \pi_i$

$\pi_i: X_1 \times \dots \times X_n \rightarrow X_i$
cts for product top
the map
& other top the map

$f = \text{id}$ then $\pi_i \circ f = \pi_i \circ \text{id} = \pi_i$

$$\pi_i \circ f(x) = \pi_i(x) \in X_i$$

unclis cts.

$\circ f$ cts. \square

This is the space
bp of the
 $X_1 \times \dots \times X_n$ and
the X_i

$f: X_i \rightarrow X_1 \times \dots \times X_n$ ie either the product or the other top in each case

$$f: X_i \rightarrow X_1 \times \dots \times X_n \quad f(x) = (x_1, \dots, x_{i-1}, x, x_{i+1}, \dots, x_n)$$