

t18_urysohn1
(TMcc1k1iQo1Kam6iep2v1nLzrLmRETBakob)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\neg (X2 \in X1) \wedge (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X0)) \Rightarrow (\neg (m1_connsp_2 X3 X0 X2) \wedge (r1_tarski X3 X1))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \Rightarrow ((\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in X1) \Rightarrow \\ & (m1_connsp_2 X1 X0 X2))) \Rightarrow (v3_pre_topc X1 X0))) \end{aligned}$$