

t24_connsp_2 (TM-
SEyF9yNNBVYj9k7rpGHYQuYaMx7jPBhGC)

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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k6_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1_tarski (k1_setfam_1 X1) X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k6_setfam_1 X0 X1 = k1_setfam_1 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k1_connsp_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 = k1_connsp_2 \\ & X0 X1) \Leftrightarrow (\exists X3. (m1_subset_1 X3 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \wedge ((\forall X4. (m1_subset_1 X4 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((X4 \in X3) \Leftrightarrow ((v3_pre_topc X4 X0) \wedge ((v4_pre_topc \\ & X4 X0) \wedge (X1 \in X4)))))) \wedge (k6_setfam_1 (u1_struct_0 X0) X3 = X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)) \Rightarrow (((v3_pre_topc \\ & X2 X0) \wedge ((v4_pre_topc X2 X0) \wedge ((X1 \in X2) \wedge (r1_tarSKI X2 (k1_connsp_2 \\ & X0 X1))))) \Rightarrow (X2 = k1_connsp_2 X0 X1)))) \end{aligned}$$