

t26_connsp_3
(TMZC7xJsiPE9V3eRKuc8C3jqpUv25i9tiyN)

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 $k6_connsp_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_connsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (u1_struct_0 (k1_pre_topc X0 X1) = X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (X1 \in k1_connsp_1 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_pre_topc (k1_pre_topc X0 X1)) \wedge (v2_pre_topc (k1_pre_topc X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((\neg v2_struct_0 (k1_pre_topc X0 X1)) \wedge (v1_pre_topc (k1_pre_topc X0 X1)))) \quad (6)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_pre_topc\ X1\ X0)\Rightarrow(l1_pre_topc\ X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1_pre_topc\ X0)\wedge((m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1\ (k6_connsp_3\ X0\ X1\ X2)\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((v1_pre_topc\ (k1_pre_topc\ X0\ X1))\wedge(m1_pre_topc\ (k1_pre_topc\ X0\ X1)\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow((X2 \in X1)\Rightarrow(\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow((X3 = k6_connsp_3\ X0\ X1\ X2)\Leftrightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0\ (k1_pre_topc\ X0\ X1))))\Rightarrow((X4 = X2)\Rightarrow(X3 = k1_connsp_1\ (k1_pre_topc\ X0\ X1)\ X4)))))))) \quad (10)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow((X2 \in X1)\Rightarrow(X2 \in k6_connsp_3\ X0\ X1\ X2))))$$