

t15_connsp_2
(TMGpCrkbutozUBopa3186Y5YJBzY7Zn3zRQ)

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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 $v1_connsp.2 : \iota \Rightarrow o$ 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 $v3_connsp.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarSKI : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_connsp.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tops.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_connsp.2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_connsp.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_struct.0 : \iota \Rightarrow \iota$ be given. Let $l1_struct.0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 X2))) \Rightarrow (m1_subset.1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset.1 X0 (k1_zfmisc.1 X1)) \Leftrightarrow (r1_tarSKI X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct.0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset.1 X1 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow (\forall X2. (m1_subset.1 X2 (u1_struct.0 X0)) \Rightarrow (((v3_pre_topc X1 X0) \wedge (X2 \in X1)) \Rightarrow (m1_connsp.2 X1 X0 X2)))) \quad (3)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset.1 X1 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow (r1_tarSKI (k1_tops.1 X0 X1) X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct.0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset.1 X1 (u1_struct.0 X0)) \Rightarrow ((r1_connsp.2 X0 X1) \Leftrightarrow (\forall X2. (m1_subset.1 X2 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow (\forall X3. (m1_subset.1 X3 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow (((m1_connsp.2 X2 X0 X1) \wedge ((r3_connsp.1 X0 X2 X3) \wedge (X1 \in X3)) \Rightarrow (m1_connsp.2 X3 X0 X1))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ X0))) \Rightarrow (((v3_connsp_1 X1 X0) \wedge (r1_tarski X1 X2)) \Rightarrow (r3_connsp_1 \\ X0 X2 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (v3_pre_topc \\ (k1_tops_1 X0 X1) X0) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (v3_pre_topc \\ (k2_struct_0 X0) X0) \quad (8)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow ((v1_connsp_2 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0))) \Rightarrow (r1_connsp_2 X0 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ (X2 \in X1)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow (k2_struct_0 X0 = u1_struct_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((m1_connsp_2 \\ X2 X0 X1) \Leftrightarrow (X1 \in k1_tops_1 X0 X2)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow ((v1_connsp_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v3_connsp_1 X1 X0) \Rightarrow (v3_pre_topc X1 X0)))) \end{aligned}$$