

t6_connsp_3 (TMPCxNgpPegtBUmVuk- FKUYW4S9m9ebuYDM1)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_connsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_connsp_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1_tarski X0 (k3_tarski X1)) \quad (1)$$

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.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((\exists X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((v2_connsp_1 \\ X2 X0) \wedge (r1_tarski X1 X2)))) \Rightarrow (r1_tarski X1 (k1_connsp_3 X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k5_setfam_1 X0 X1 = k3_tarski X1) \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& \quad (u1_struct_0\ X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\
& \quad (u1_struct_0\ X0))) \Rightarrow ((X2 = k1_connsp_3\ X0\ X1) \Leftrightarrow (\exists X3.(m1_subset_1 \\
& \quad X3\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \wedge ((\forall X4. \\
& \quad (m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((X4 \in X3) \Leftrightarrow ((\\
& \quad v2_connsp_1\ X4\ X0) \wedge (r1_tarSKI\ X1\ X4)))) \wedge (k5_setfam_1\ (u1_struct_0 \\
& \quad X0)\ X3 = X2))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarSKI\ X0\ X1) \wedge (r1_tarSKI\ X1\ X0)) \tag{8}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_pre_topc\ X0) \wedge (l1_pre_topc \\
& \quad X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (u1_struct_0 \\
& \quad X0))) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0 \\
& \quad X0))) \Rightarrow (((v2_connsp_1\ X1\ X0) \wedge ((v2_connsp_1\ X2\ X0) \wedge (r1_tarSKI \\
& \quad (k1_connsp_3\ X0\ X1)\ X2))) \Rightarrow (X2 = k1_connsp_3\ X0\ X1))))
\end{aligned}$$