

t23_connsp_2

(TMXme4qMUMhiCwWRGNGQK2kiTJFVmqDyh1e)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ 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 $k6_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow \\ & (\neg (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\ & ((X3 \in X2) \Leftrightarrow ((v3_pre_topc X3 X0) \wedge ((v4_pre_topc X3 X0) \wedge (X1 \in X3)))))) \wedge \\ & (X2 = k1_xboole_0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k6_setfam_1 X0 X1 = k1_setfam_1 X1) \quad (5)$$

Assume the following.

$$\forall X0. \exists X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \quad (6)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((v2_pre_topc \ X0) \wedge \\ & (l1_pre_topc \ X0))) \wedge (m1_subset_1 \ X1 \ (u1_struct_0 \ X0))) \Rightarrow (m1_subset_1 \\ & (k1_connsp_2 \ X0 \ X1) \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 \ X0) \wedge ((v2_pre_topc \ X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (u1_struct_0 \ X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0))) \Rightarrow ((X2 = k1_connsp_2 \\ & X0 \ X1) \Leftrightarrow (\exists X3. (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (k1_zfmisc_1 \\ & (u1_struct_0 \ X0)))) \wedge ((\forall X4. (m1_subset_1 \ X4 \ (k1_zfmisc_1 \\ & (u1_struct_0 \ X0))) \Rightarrow ((X4 \in X3) \Leftrightarrow ((v3_pre_topc \ X4 \ X0) \wedge ((v4_pre_topc \\ & X4 \ X0) \wedge (X1 \in X4)))))) \wedge (k6_setfam_1 \ (u1_struct_0 \ X0) \ X3 = X2)))))) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((X0 \neq k1_xboole_0) \Rightarrow ((X1 = k1_setfam_1 \ X0) \Leftrightarrow \\ & (\forall X2. (X2 \in X1) \Leftrightarrow (\forall X3. (X3 \in X0) \Rightarrow (X2 \in X3)))))) \wedge ((X0 = \\ & k1_xboole_0) \Rightarrow ((X1 = k1_setfam_1 \ X0) \Leftrightarrow (X1 = k1_xboole_0))) \end{aligned} \tag{10}$$

Theorem 1

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