

t16_yellow13
(TMa57EprBZ5eX2oeBrvpbefFz7gzR8UrhMT)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_yellow_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((\exists X3. ((v1_yellow_8 \\ & X3 X0 X2) \wedge ((v1_tops_2 X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \wedge (\forall X4. (m1_subset_1 X4 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\neg (X4 \in X3) \wedge (r1_xboole_0 X1 X4)))))) \Rightarrow (X2 \in k2_pre_topc \\ & X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg (\forall X3. ((v1_yellow_8 \\ & X3 X0 X2) \wedge ((v1_tops_2 X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))))) \Rightarrow (\forall X4. (m1_subset_1 X4 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\neg (X4 \in X3) \wedge (r1_xboole_0 X1 X4)))))) \wedge (\forall X3. \\ & ((v1_yellow_8 X3 X0 X2) \wedge ((v1_tops_2 X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\exists X4. (m1_subset_1 \\ & X4 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((X4 \in X3) \wedge (r1_xboole_0 X1 \\ & X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in k2_pre_topc X0 X1) \Rightarrow (\forall X3. \\
& ((v1_yellow_8 X3 X0 X2) \wedge ((v1_tops_2 X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg(X4 \in X3) \wedge (r1_xboole_0 X1 \\
& X4))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X2 \in k2_pre_topc X0 X1) \Leftrightarrow (\forall X3. \\
& ((v1_yellow_8 X3 X0 X2) \wedge ((v1_tops_2 X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\
& (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg(X4 \in X3) \wedge (r1_xboole_0 X1 \\
& X4))))))
\end{aligned}$$