

t3_tops_4

(TMWHG9uNjdRa3ZqkMdWHvTpcsnjkMAsfKDw)

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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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_t_0topsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_connsp_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((m1_connsp_2 X1 X0 X2) \Rightarrow (X2 \in X1)))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((v3_pre_topc X1 X0) \wedge (X2 \in X1)) \Rightarrow (m1_connsp_2 X1 X0 X2)))) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\
& X1)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.((v3_pre_topc X4 X0) \wedge (m1_consp_2 \\
& X4 X0 X3)) \Rightarrow (\exists X5.(m1_consp_2 X5 X1 (k3_funct_2 (u1_struct_0 \\
& X0) (u1_struct_0 X1) X2 X3)) \wedge (r1_tarski X5 (k7_relset_1 (u1_struct_0 \\
& X0) (u1_struct_0 X1) X2 X4)))))) \Rightarrow (v1_t_0topsp X2 X0 X1)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\
& X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\
& X1)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((v1_t_0topsp X2 X0 X1) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_consp_2 \\
& X4 X0 X3) \Rightarrow (\exists X5.((v3_pre_topc X5 X1) \wedge (m1_consp_2 X5 X1 (\\
& k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3)) \wedge (r1_tarski \\
& X5 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X4))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge \\
& (l1_pre_topc X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\
& (m1_consp_2 X2 X0 X1) \Rightarrow (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\
& X0))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\
& (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0)) \Rightarrow (m1_subset_1 (\\
& k3_funct_2 X0 X1 X2 X3) X1)
\end{aligned} \tag{8}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\ & X1))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\ & X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow ((v1_t_0topsp X2 X0 X1) \Leftrightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.((\\ & v3_pre_topc X4 X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow (\neg (X3 \in X4) \wedge (\forall X5.((v3_pre_topc X5 X1) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (u1_struct_0 X1)))) \Rightarrow (\neg (k3_funct_2 (u1_struct_0 \\ & X0) (u1_struct_0 X1) X2 X3 \in X5) \wedge (r1_tarski X5 (k7_relset_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1) X2 X4)))))))))) \end{aligned}$$