

t12_topreala
(TMdtLZuG9bjjSBfRoetvq9cC3DWk4utbMg9)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_tsep_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_tsep_1 X1 X0) \wedge (m1_pre_topc X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow ((X2 = X3) \Rightarrow ((v3_pre_topc X3 \\ & X1) \Leftrightarrow (v3_pre_topc X2 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (k7_relset_1 X0 X1 X2 X3 = k7_relat_1 \\ & X2 X3) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_pre_topc X1 X0) \Rightarrow \\ & (l1_pre_topc X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (m1_subset_1 (k7_relset_1 \\ & X0 X1 X2 X3) (k1_zfmisc_1 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(l1_pre_topc\ X1) \Rightarrow (\forall X2. \\
& ((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X1)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0 \\
& X0)\ (u1_struct_0\ X1)))))) \Rightarrow ((v1_t_0topsp\ X2\ X0\ X1) \Leftrightarrow (\forall X3. \\
& (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v3_pre_topc \\
& X3\ X0) \Rightarrow (v3_pre_topc\ (k7_relset_1\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X1)\ X2\ X3)\ X1))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\
& ((v2_pre_topc\ X1) \wedge (l1_pre_topc\ X1)) \Rightarrow (\forall X2.((v1_tsep_1 \\
& X2\ X1) \wedge (m1_pre_topc\ X2\ X1)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\
& X3\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)))))) \Rightarrow (\forall X4. \\
& ((v1_funct_1\ X4) \wedge ((v1_funct_2\ X4\ (u1_struct_0\ X0)\ (u1_struct_0 \\
& X2)) \wedge (m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0 \\
& X0)\ (u1_struct_0\ X2)))))) \Rightarrow (((X3 = X4) \wedge (v1_t_0topsp\ X4\ X0\ X2)) \Rightarrow \\
& (v1_t_0topsp\ X3\ X0\ X1))))))
\end{aligned}$$