

t12_pscomp_1 (TMF- BzMjC7vkuLvN5N7Us5Hj2DdzeMbHXG9v)

October 27, 2020

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 $k1_numbers : \iota$ 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 $v1_pscomp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_measure6 : \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k3_measure6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((\\ & v1_funct_2 X1 (u1_struct_0 X0) k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) k1_numbers)))))) \Rightarrow ((v1_pscomp_1 \\ & X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)) \Rightarrow \\ & ((v3_rcomp_1 X2) \Rightarrow (v3_pre_topc (k8_relset_1 (u1_struct_0 X0) \\ & k1_numbers X1 X2) X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \Rightarrow (\forall X4.\neg(X4 \in k7_relset_1 X0 X1 X3 X2) \wedge (\forall X5. \\ & \neg(X5 \in X0) \wedge ((X5 \in X2) \wedge (X4 = k1_funct_1 X3 X5)))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{3}$$

Assume the following.

$$\forall X0.k9_setfam_1 X0 = k1_zfmisc_1 X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k8_relset_1 X0 X1 X2 X3 = k8_relat_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k7_relset_1 X0 X1 X2 X3 = k7_relat_1 X2 X3) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 X1 X2 X3 = k1_funct_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(m1_subset_1 (k7_relset_1 X0 X1 X2 X3) (k1_zfmisc_1 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(((v1_funct_1 (k3_measure6 X0 X1 X2))\wedge((v1_funct_2 (k3_measure6 X0 X1 X2) (k9_setfam_1 X1) (k9_setfam_1 X0))\wedge(m1_subset_1 (k3_measure6 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k9_setfam_1 X1) (k9_setfam_1 X0))))))) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k1_zfmisc_1 k1_numbers)))\Rightarrow((v1_measure6 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 k1_numbers))\Rightarrow((X1 \in X0)\Rightarrow(v3_rcomp_1 X1)))) \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\
& X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow \\
& (\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k9_setfam_1 X1) \\
& (k9_setfam_1 X0))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k9_setfam_1 X1) (k9_setfam_1 X0))))))\Rightarrow((X3 = k3_measure6 X0 X1 \\
& X2)\Leftrightarrow(\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 X1))\Rightarrow(k3_funct_2 \\
& (k1_zfmisc_1 X1) (k9_setfam_1 X0) X3 X4 = k8_relset_1 X0 X1 X2 X4)))) \\
& \hspace{15em} (12)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_tops_2 X1 X0)\Leftrightarrow(\forall X2. \\
& (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((X2 \in X1)\Rightarrow(v3_pre_topc \\
& X2 X0)))) \\
& \hspace{15em} (13)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge((\\
& v1_funct_2 X1 (u1_struct_0 X0) k1_numbers)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) k1_numbers))))\Rightarrow(\forall X2.(\\
& m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 k1_numbers))\Rightarrow(((v1_pscomp_1 \\
& X1 X0)\wedge(v1_measure6 X2)\Rightarrow(v1_tops_2 (k7_relset_1 (k9_setfam_1 \\
& k1_numbers) (k9_setfam_1 (u1_struct_0 X0)) (k3_measure6 (u1_struct_0 \\
& X0) k1_numbers X1) X2) X0))))
\end{aligned}$$