

l26_topgen_2

(TMaFEdZ9ti5WeHfLjNAtH6c9tdZmz7AwTHY)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v1_topgen_2 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_waybel23 : \iota \Rightarrow \iota$ 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 $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\
 & ((v1_tops_2 X1 X0) \wedge ((v1_cantor_1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2.((v1_funct_1 \\
 & X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_pre_topc X0)) \wedge (m1_subset_1 \\
 & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_pre_topc X0)))))) \Rightarrow \\
 & (((X1 = k2_reset_1 (u1_pre_topc X0) X2) \wedge (\forall X3.(m1_subset_1 \\
 & X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in k1_funct_1 X2 X3) \wedge (\forall X4.((v3_pre_topc \\
 & X4 X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((X3 \in \\
 & X4) \Rightarrow (r1_tarski (k1_funct_1 X2 X3) X4)))))) \Rightarrow (k2_waybel23 X0 = k1_card_1 \\
 & X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\
& ((v1_tops_2\ X1\ X0)\wedge((v1_cantor_1\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k1_zfmisc_1\ (u1_struct_0\ X0))))))\Rightarrow(\forall X2.((v1_tops_2 \\
& X2\ X0)\wedge((v1_cantor_1\ X2\ X0)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k1_zfmisc_1 \\
& (u1_struct_0\ X0))))))\Rightarrow(\forall X3.((v1_funct_1\ X3)\wedge((v1_funct_2 \\
& X3\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0))\wedge(m1_subset_1\ X3\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0))))))\Rightarrow(((X1 = k2_relset_1 \\
& (u1_pre_topc\ X0)\ X3)\wedge(\forall X4.(m1_subset_1\ X4\ (u1_struct_0 \\
& X0))\Rightarrow((X4 \in k1_funct_1\ X3\ X4)\wedge(\forall X5.((v3_pre_topc\ X5\ X0)\wedge \\
& (m1_subset_1\ X5\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((X4 \in X5)\Rightarrow(\\
& r1_tarski\ (k1_funct_1\ X3\ X4)\ X5))))))\Rightarrow(r1_tarski\ X1\ X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge((v1_topgen_2 \\
& X0)\wedge(l1_pre_topc\ X0))))\Rightarrow(\exists X1.((v1_tops_2\ X1\ X0)\wedge((v1_cantor_1 \\
& X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0 \\
& X0))))))\wedge(\exists X2.((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (u1_struct_0 \\
& X0)\ (u1_pre_topc\ X0))\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& (u1_struct_0\ X0)\ (u1_pre_topc\ X0))))))\wedge((X1 = k2_relset_1\ (u1_pre_topc \\
& X0)\ X2)\wedge(\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0))\Rightarrow((X3 \in k3_funct_2 \\
& (u1_struct_0\ X0)\ (u1_pre_topc\ X0)\ X2\ X3)\wedge(\forall X4.((v3_pre_topc \\
& X4\ X0)\wedge(m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow((X3 \in \\
& X4)\Rightarrow(r1_tarski\ (k3_funct_2\ (u1_struct_0\ X0)\ (u1_pre_topc\ X0) \\
& X2\ X3)\ X4))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0\ X0)\wedge \\
& (((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ X0\ X1))))))\wedge(m1_subset_1\ X3\ X0))\Rightarrow(k3_funct_2\ X0 \\
& X1\ X2\ X3 = k1_funct_1\ X2\ X3)
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0)\wedge(l1_struct_0\ X0))\Rightarrow(\neg v1_xboole_0 \\
& (u1_struct_0\ X0))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(l1_struct_0\ X0) \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge ((v1_topgen_2 \\ & X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((v1_tops_2 X1 X0) \wedge ((v1_cantor_1 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow (\exists X2.((v1_tops_2 X2 X0) \wedge ((v1_cantor_1 X2 X0) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \wedge \\ & ((r1_tarski X2 X1) \wedge (k1_card_1 X2 = k2_waybel23 X0)))) \end{aligned}$$