

t22_waybel19

(TMMV1f5ZcKX64aYq7GbQsBGnY8cyeA5fiPt)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ 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 $v2_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k1_cantor_1 X0 X1) (k1_cantor_1 \\ & X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (u1_pre_topc X0 = k1_cantor_1 (u1_struct_0 X0) (u1_pre_topc X0)) \tag{2}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (u1_pre_topc X0 = k2_cantor_1 (u1_struct_0 X0) (u1_pre_topc X0)) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow \\ & (((v1_tops_2\ X1\ X0)\wedge((v2_cantor_1\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0))))))\Leftrightarrow((v1_tops_2\ (k2_cantor_1 \\ & (u1_struct_0\ X0)\ X1)\ X0)\wedge((v1_cantor_1\ (k2_cantor_1\ (u1_struct_0 \\ & X0)\ X1)\ X0)\wedge(m1_subset_1\ (k2_cantor_1\ (u1_struct_0\ X0)\ X1)\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0))\Rightarrow(\forall X1. \\ & (m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0))))\Rightarrow \\ & ((u1_pre_topc\ X0 = k1_cantor_1\ (u1_struct_0\ X0)\ X1)\Leftrightarrow((v1_tops_2 \\ & X1\ X0)\wedge((v1_cantor_1\ X1\ X0)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & (u1_struct_0\ X0))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X2))\Rightarrow(r1_tarski\ X0\ X2) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0)))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0)))\Rightarrow((r1_tarski\ X1\ X2)\Rightarrow(r1_tarski\ (k2_cantor_1\ X0\ X1)\ (k2_cantor_1 \\ & X0\ X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0)\Rightarrow(m1_subset_1\ (u1_pre_topc\ X0)\ (k1_zfmisc_1\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0)))\Rightarrow(m1_subset_1\ (k2_cantor_1\ X0\ X1)\ (k1_zfmisc_1\ (k1_zfmisc_1 \\ & X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & \quad X0))) \Rightarrow (\forall X1. \forall X2. ((r1_tarski X1 X2) \wedge (r1_tarski X2 \\ & \quad (u1_pre_topc X0))) \Rightarrow (((v1_tops_2 X1 X0) \wedge ((v1_cantor_1 X1 X0) \wedge \\ & \quad (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow \\ & ((v1_tops_2 X2 X0) \wedge ((v1_cantor_1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & \quad (k1_zfmisc_1 (u1_struct_0 X0)))))) \wedge (((v1_tops_2 X1 X0) \wedge ((v2_cantor_1 \\ & \quad X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 \\ & \quad X0)))))) \Rightarrow ((v1_tops_2 X2 X0) \wedge ((v2_cantor_1 X2 X0) \wedge (m1_subset_1 \\ & \quad X2 (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))))))))) \end{aligned}$$