

t23_yellow_9 (TMF-
PMq5NdMrGNuvYxyAeRmDe3JASTRPLLhx)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ 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 $v1_tops_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_cantor_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_cantor_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow ((v2_struct_0 X0) \Rightarrow (u1_pre_topc X0 = k1_tarski k1_xboole_0)) \tag{2}$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((v1_tops_2 X1 X0) \Leftrightarrow (r1_tarski \\ & X1 (u1_pre_topc X0)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (u1_pre_topc X0 = k2_cantor_1 (u1_struct_0 X0) (u1_pre_topc X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(r1_tarski X1 (k2_cantor_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1))\Leftrightarrow(r1_tarski X0 X1) \quad (7)$$

Assume the following.

$$k1_zfmisc_1 k1_xboole_0 = k1_tarski k1_xboole_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1)\wedge(r1_tarski X1 X2))\Rightarrow(r1_tarski X0 X2) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow((r1_tarski X1 X2)\Rightarrow(r1_tarski (k2_cantor_1 X0 X1) (k2_cantor_1 X0 X2)))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (11)$$

Assume the following.

$$\forall X0.((v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(v1_xboole_0 (u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(m1_subset_1 (u1_pre_topc X0) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(l1_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0)))\Rightarrow(m1_subset_1 (k2_cantor_1 X0 X1) (k1_zfmisc_1 (k1_zfmisc_1 X0))) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v2_cantor_1\ X1\ X0) \Leftrightarrow (\exists X2. \\ & ((v1_tops_2\ X2\ X0) \wedge ((v1_cantor_1\ X2\ X0) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0)))))) \wedge (r1_tarSKI\ X2\ (k2_cantor_1 \\ & (u1_struct_0\ X0\ X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$k1_xboole_0 = the\ (\lambda X0 : \iota.v1_xboole_0\ X0) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ & (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((v1_cantor_1\ X1\ X0) \Leftrightarrow (r1_tarSKI \\ & (u1_pre_topc\ X0)\ (k1_cantor_1\ (u1_struct_0\ X0)\ X1)))) \end{aligned} \quad (18)$$

Theorem 1

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