

t54_tex_4

(TMKhfQGXRiPVvvDcLm65yVPeyyzu9nsJ24Z)

October 27, 2020

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tex_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tex_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_subset_1 (k4_tex_4 X0 \\ & X1) (k4_tex_4 X0 X2)) \Leftrightarrow (\neg (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow (\neg (v3_pre_topc X3 X0) \wedge ((r1_tarski (k4_tex_4 \\ & X0 X1) X3) \wedge (r1_xboole_0 X3 (k4_tex_4 X0 X2)))))) \wedge (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\neg (v3_pre_topc X3 X0) \wedge ((r1_xboole_0 \\ & X3 (k4_tex_4 X0 X1)) \wedge (r1_tarski (k4_tex_4 X0 X2) X3))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((r1_xboole_0 X1 (k3_subset_1 \\ & X0 X2)) \Leftrightarrow (r1_tarski X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((r1_xboole_0 X1 X2) \Leftrightarrow (r1_tarski \\ & X1 (k3_subset_1 X0 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow ((r1_subset_1 (k2_tex_4 X0 X1) (k2_tex_4 X0 \\ & X2)) \vee (k2_tex_4 X0 X1 = k2_tex_4 X0 X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k4_tex_4 \\ & X0 X1 = k2_tex_4 X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k3_subset_1 X0 (k3_subset_1 X0 X1) = X1) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \wedge \\ & ((v3_pre_topc X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow (v4_pre_topc (k3_subset_1 (u1_struct_0 X0) X1) X0) \end{aligned} \quad (11)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((\neg v1_xboole_0 \\ & (k4_tex_4 X0 X1)) \wedge (m1_subset_1 (k4_tex_4 X0 X1) (k1_zfmisc_1 (\\ & u1_struct_0 X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k3_subset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Leftrightarrow(k3_xboole_0 X0 X1 = k1_xboole_0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 X0 X1 = k4_xboole_0 X0 X1) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ & X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_subset_1 (k4_tex_4 X0 \\ & X1) (k4_tex_4 X0 X2))\Leftrightarrow(\neg(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\ & (u1_struct_0 X0))\Rightarrow(\neg(v4_pre_topc X3 X0)\wedge((r1_tarski (k4_tex_4 \\ & X0 X1) X3)\wedge(r1_xboole_0 X3 (k4_tex_4 X0 X2))))))\wedge(\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 (u1_struct_0 X0))\Rightarrow(\neg(v4_pre_topc X3 X0)\wedge((r1_xboole_0 \\ & X3 (k4_tex_4 X0 X1))\wedge(r1_tarski (k4_tex_4 X0 X2) X3)))))))))) \end{aligned}$$