

t21_yellow13 (TMQkJwaAZB- nXCY5zxRDJ7oFQGSEW1gC5Cu1)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_tdlat_3 : \iota \Rightarrow o$ 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 $v1_yellow13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $m1_yellow13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski (k1_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_yellow13 X2 X0 X1) \Rightarrow (\neg v1_xboole_0 X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (r1_tarski (k1_tops_1 X0 X1) X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge ((v2_tdlat_3 \\ X0) \wedge (l1_pre_topc X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (((X1 \neq u1_struct_0 X0) \Rightarrow (k1_tops_1 X0 X1 = k1_xboole_0)) \wedge \\ ((X1 = u1_struct_0 X0) \Rightarrow (k1_tops_1 X0 X1 = u1_struct_0 X0)))) \end{aligned} \quad (10)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (u1_struct_0 \\ X0))) \Rightarrow (\exists X2.(m1_yellow13 X2 X0 X1) \wedge (v1_yellow13 X2 X0 X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0. \exists X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 X1) \quad (13)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_tarski X0) \quad (14)$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (u1_struct_0 \\ X0))) \Rightarrow (\forall X2.(m1_yellow13 X2 X0 X1) \Rightarrow (m1_subset_1 X2 (k1_zfmisc_1 \\ (k1_zfmisc_1 (u1_struct_0 X0)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((l1_pre_topc X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k1_tops_1 X0 X1) (k1_zfmisc_1 \\ (u1_struct_0 X0))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_yellow13\ X2\ X0\ X1) \Rightarrow ((v1_yellow13\ X2\ X0\ X1) \Leftrightarrow \\ (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow \\ ((X3 \in X2) \Leftrightarrow (X1 \in k1_tops_1\ X0\ X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k1_zfmisc_1\ (\\ u1_struct_0\ X0)))) \Rightarrow ((m1_yellow13\ X2\ X0\ X1) \Leftrightarrow (\forall X3.(m1_subset_1 \\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\neg(X1 \in k1_tops_1\ X0\ X3) \wedge (\forall X4. \\ (m1_subset_1\ X4\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow (\neg(X4 \in X2) \wedge (\\ (X1 \in k1_tops_1\ X0\ X4) \wedge (r1_tarski\ X4\ X3)))))))))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Leftrightarrow (\forall X1.\neg X1 \in X0) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski\ X0\ X1) \wedge (r1_tarski\ X1\ X0)) \quad (22)$$

Assume the following.

$$\forall X0.(l1_pre_topc\ X0) \Rightarrow ((v2_tdlat_3\ X0) \Rightarrow (v2_pre_topc\ X0)) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (24)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v2_tdlat_3\ X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow ((v1_yellow13 \\ (k1_tarski\ (u1_struct_0\ X0))\ X0\ X1) \wedge (m1_yellow13\ (k1_tarski\ (\\ u1_struct_0\ X0))\ X0\ X1))) \end{aligned}$$