

t40_yellow_2
(TMbPjk3kvuKvqRfiB5nGTtUdqRyt4Rm6rAo)

October 27, 2020

Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v12_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

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.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0))) \Rightarrow (((v1_lattice3 X0) \vee (v2_lattice3 X0)) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (((v12_waybel_0 X1 X0) \wedge ((v1_waybel_0 X1 X0) \wedge ((v12_waybel_0 X2 X0) \wedge (v1_waybel_0 X2 X0)))) \Rightarrow (v1_waybel_0 (k9_subset_1 (u1_struct_0 X0) X1 X2) X0)))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (((v12_waybel_0 X1 X0) \wedge (v12_waybel_0 X2 X0)) \Rightarrow \\ ((v12_waybel_0 (k9_subset_1 (u1_struct_0 X0) X1 X2) X0) \wedge (v12_waybel_0 \\ (k4_subset_1 (u1_struct_0 X0) X1 X2) X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow ((X3 = k12_lattice3 X0 X1 X2) \Leftrightarrow ((r1_orders_2 \\ X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4.(m1_subset_1 X4 (\\ u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 X0 X4 X2)) \Rightarrow \\ (r1_orders_2 X0 X4 X3)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k9_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v5_orders_2 X0) \wedge ((v2_lattice3 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k12_lattice3 \\ X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v12_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (((X2 \in X1) \wedge (r1_orders_2 X0 X3 X2)) \Rightarrow (X3 \in X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & \quad X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((\neg \\ & v1_xboole_0 X1) \wedge ((v1_waybel_0 X1 X0) \wedge ((v12_waybel_0 X1 X0) \wedge (\\ & \quad m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2. \\ & ((\neg v1_xboole_0 X2) \wedge ((v1_waybel_0 X2 X0) \wedge ((v12_waybel_0 X2 X0) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((\neg v1_xboole_0 \\ & (k9_subset_1 (u1_struct_0 X0) X1 X2)) \wedge ((v1_waybel_0 (k9_subset_1 \\ & (u1_struct_0 X0) X1 X2) X0) \wedge ((v12_waybel_0 (k9_subset_1 (u1_struct_0 \\ & X0) X1 X2) X0) \wedge (m1_subset_1 (k9_subset_1 (u1_struct_0 X0) X1 X2) \\ & \quad (k1_zfmisc_1 (u1_struct_0 X0)))))))))) \end{aligned}$$