

t63_waybel_0

(TMSvMfhgU1xFyKAxih6jYbmHU3xQzdhtYAF)

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 $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v2_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((v2_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k12_lattice3 X0 X2 X3 \in X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (k2_yellow_0 X0 (k7_domain_1 (u1_struct_0 X0) X1 X2) = k12_lattice3 \\ & X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v2_lattice3 \\ & X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X1 = k12_lattice3 \\ & X0 X1 X2) \Leftrightarrow (r3_orders_2 X0 X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v2_lattice3 \\ X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (r2_yellow_0 X0 (k2_tarski \\ X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (v3_orders_2 \\ X0) \wedge (l1_orders_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (r3_orders_2 X0 X1 X1) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\ X1 X0) \wedge (m1_subset_1 X2 X0))) \Rightarrow (k7_domain_1 X0 X1 X2 = k2_tarski X1 \\ X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((l1_orders_2 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow ((v1_orders_2 (k5_yellow_0 X0 X1)) \wedge ((v4_yellow_0 \\ (k5_yellow_0 X0 X1) X0) \wedge (m1_yellow_0 (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v2_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (\neg(X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((r1_orders_2 X0 X4 X2) \wedge (r1_orders_2 X0 X4 X3)))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (m1_yellow_0 X1 X0) \Rightarrow ((v5_yellow_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (((X2 \in u1_struct_0 X1) \wedge ((X3 \in u1_struct_0 X1) \wedge (r2_yellow_0 \\ X0 (k7_domain_1 (u1_struct_0 X0) X2 X3))) \Rightarrow (k2_yellow_0 X0 (k7_domain_1 \\ (u1_struct_0 X0) X2 X3) \in u1_struct_0 X1)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\forall X2.((v1_orders_2 X2) \wedge ((v4_yellow_0 \\ X2 X0) \wedge (m1_yellow_0 X2 X0))) \Rightarrow ((X2 = k5_yellow_0 X0 X1) \Leftrightarrow (u1_struct_0 \\ X2 = X1)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v5_orders_2 X0) \wedge ((v2_lattice3 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (k12_lattice3 X0 X1 X2 = k12_lattice3 \\ X0 X2 X1) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.((\neg \\ v1_xboole_0 X1) \wedge ((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow (((\neg v1_xboole_0 X1) \wedge ((v2_waybel_0 X1 X0) \wedge \\ ((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Leftrightarrow (v5_yellow_0 (k5_yellow_0 X0 X1) X0))) \end{aligned}$$