

t27_waybel_7

(TMbKq9tp4eJi1KVnZp98qy654Y64EehV8vz)

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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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_yellow_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_waybel_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_waybel_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_waybel_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_yellow_0 : \iota \Rightarrow \iota$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_waybel_1 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_waybel_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k13_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_yellow_0 : \iota \Rightarrow o$ be given. Let $v2_waybel_1 : \iota \Rightarrow o$ be given. Let $v10_waybel_1 : \iota \Rightarrow o$ be given. Let $v2_yellow_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. r1_xboole_0 (k4_xboole_0 X0 X1) X1 \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v2_waybel_0 X1 X0) \wedge ((v13_waybel_0 \\ & X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((\\ & v1_subset_1 X1 (u1_struct_0 X0)) \Leftrightarrow (\neg k3_yellow_0 X0 \in X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow (\forall X1.((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow ((v2_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k12_lattice3 X0 X2 X3 \in X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v11_waybel_1 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v2_waybel_0 \\ & X1 X0) \wedge ((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow (((v1_subset_1 X1 (u1_struct_0 X0)) \wedge (v2_waybel_7 X1 \\ & X0)) \Leftrightarrow (v3_waybel_7 X1 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge ((v2_waybel_0 X1 (k3_yellow_1 \\ & X0)) \wedge ((v13_waybel_0 X1 (k3_yellow_1 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 (k3_yellow_1 X0)))))) \Rightarrow ((v2_waybel_7 X1 (k3_yellow_1 \\ & X0)) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((X2 \in X1) \vee \\ & (k6_subset_1 X0 X2 \in X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. k3_yellow_0 (k3_yellow_1 X0) = k1_xboole_0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (u1_struct_0 (k3_yellow_1 \\ & X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 (k3_yellow_1 \\ & X0))) \Rightarrow ((k13_lattice3 (k3_yellow_1 X0) X1 X2 = k2_xboole_0 X1 X2) \wedge \\ & (k12_lattice3 (k3_yellow_1 X0) X1 X2 = k3_xboole_0 X1 X2))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v2_struct_0 (k3_yellow_1 X0)) \wedge ((v1_orders_2 (k3_yellow_1 \\ & X0)) \wedge ((v3_orders_2 (k3_yellow_1 X0)) \wedge ((v4_orders_2 (k3_yellow_1 \\ & X0)) \wedge (v5_orders_2 (k3_yellow_1 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k3_yellow_1 X0)) \wedge (v11_waybel_1 (k3_yellow_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k3_yellow_1 X0)) \wedge (l1_orders_2 (k3_yellow_1 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1) \Leftrightarrow (k3_xboole_0 X0 X1 = k1_xboole_0) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & \forall X2.(r2_waybel_7 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 \\ & (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v3_pre_topc X3 X0) \wedge (X2 \in X3)) \Rightarrow \\ & (X3 \in X1)))) \quad (15) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & \forall X2.(r1_waybel_7 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 \\ & (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v3_pre_topc X3 X0) \wedge (X2 \in X3)) \Rightarrow \\ & (\forall X4.\neg(X4 \in X1) \wedge (r1_xboole_0 X3 X4)))) \quad (16) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v11_waybel_1 \\ & X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\ & ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_yellow_0 \\ & X0) \wedge ((v2_waybel_1 X0) \wedge (v10_waybel_1 X0)))))))))) \quad (17) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v3_yellow_0 X0) \Rightarrow ((v1_yellow_0 X0) \wedge (v2_yellow_0 X0))) \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v2_waybel_0 X1 (k3_yellow_1 \\ & (u1_struct_0 X0))) \wedge ((v13_waybel_0 X1 (k3_yellow_1 (u1_struct_0 \\ & X0))) \wedge ((v3_waybel_7 X1 (k3_yellow_1 (u1_struct_0 X0))) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 (k3_yellow_1 (u1_struct_0 X0)))))))))) \Rightarrow \\ & (\forall X2.(r1_waybel_7 X0 X1 X2) \Leftrightarrow (r2_waybel_7 X0 X1 X2)) \end{aligned}$$