

t14_waybel30 (TMR- Wme9vV7doitJaFHZRzC8NBTG2KV4NDDi)

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Let $v2_pre_topc : \iota \Rightarrow o$ 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 $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v2_waybel19 : \iota \Rightarrow o$ be given. Let $v2_waybel_2 : \iota \Rightarrow o$ be given. Let $l1_waybel_9 : \iota \Rightarrow o$ be given. Let $v4_waybel11 : \iota \Rightarrow o$ be given. Let $m1_yellow_9 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_waybel19 : \iota \Rightarrow \iota$ be given. Let $k4_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel11 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_waybel11 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_waybel_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\
& ((v3_lattice3 X0) \wedge ((v2_waybel19 X0) \wedge (l1_waybel_9 X0)))))))) \Rightarrow \quad (1) \\
& (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& ((v3_pre_topc X1 X0) \Rightarrow (v3_waybel11 X1 X0)))
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\
& ((v3_lattice3 X0) \wedge ((v4_waybel11 X0) \wedge (l1_waybel_9 X0)))))))) \Rightarrow \quad (2) \\
& (k5_waybel11 X0 = u1_pre_topc X0)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\
& \quad X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((\\
& \neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge (l1_orders_2 X1))) \Rightarrow (\forall X2. \\
& \quad (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (((g1_orders_2 \\
& \quad (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) \\
& \quad (u1_orders_2 X1)) \wedge ((X2 = X3) \wedge (v3_waybel11 X2 X0))) \Rightarrow (v3_waybel11 \\
& \quad \quad X3 X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& \quad X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\
& \quad ((v4_waybel11 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v3_pre_topc X1 X0) \Leftrightarrow ((v13_waybel_0 \\
& \quad X1 X0) \wedge (v3_waybel11 X1 X0))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((\\
& g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 \\
& \quad X1) (u1_orders_2 X1)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X1))) \Rightarrow ((X2 = X3) \Rightarrow ((k3_waybel_0 X0 X2 = k3_waybel_0 \\
& \quad X1 X3) \wedge (k4_waybel_0 X0 X2 = k4_waybel_0 X1 X3))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& \quad X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\
& \quad ((v3_lattice3 X0) \wedge ((v2_waybel19 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& \quad ((X1 \in k2_waybel19 X0) \Leftrightarrow (v3_pre_topc X1 X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& \quad X0 X0))) \Rightarrow (\forall X2. \forall X3.(g1_orders_2 X0 X1 = g1_orders_2 \\
& \quad X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\
& ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v2_waybel_2 \\
& \quad X0) \wedge (l1_orders_2 X0)))))) \wedge ((v3_waybel11 X1 X0) \wedge (m1_subset_1 \\
& \quad X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v3_waybel11 (k4_waybel_0 \\
& \quad X0 X1) X0)
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v4_orders_2 X0)\wedge(l1_orders_2 X0)))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(v13_waybel_0 (k4_waybel_0 X0 X1) X0) \quad (9)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_yellow_9 X1 X0)\Rightarrow(l1_waybel_9 X1)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_waybel_9 X0)\Rightarrow((l1_pre_topc X0)\wedge(l1_orders_2 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(((l1_orders_2 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k4_waybel_0 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(l1_waybel_9 X1)\Rightarrow((m1_yellow_9 X1 X0)\Leftrightarrow(g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1) = g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0)))) \quad (14)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow((v3_pre_topc X1 X0)\Leftrightarrow(X1 \in u1_pre_topc X0))) \quad (15)$$

Assume the following.

$$\forall X0.(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge((v3_lattice3 X0)\wedge(l1_orders_2 X0)))))))\Rightarrow(\forall X1.(m1_yellow_9 X1 X0)\Rightarrow((v4_waybel11 X1)\Rightarrow(v2_pre_topc X1))) \quad (16)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v3_lattice3 X0)\wedge(l1_orders_2 X0)))\Rightarrow(\forall X1.(m1_yellow_9 X1 X0)\Rightarrow(v3_lattice3 X1)) \quad (17)$$

Assume the following.

$$\forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (v5_orders_2 X1)) \quad (18)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v2_waybel_2 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge (v1_waybel_2 X0)))))) \quad (19)$$

Assume the following.

$$\forall X0.((v4_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (v4_orders_2 X1)) \quad (20)$$

Assume the following.

$$\forall X0.((v3_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (v3_orders_2 X1)) \quad (21)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (22)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (\neg v2_struct_0 X1)) \quad (23)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_lattice3 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_lattice3 X0) \wedge (v2_lattice3 X0)))) \quad (24)$$

Theorem 1

$$\forall X0.((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge ((v2_waybel19 X0) \wedge ((v2_waybel_2 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow (\forall X1.((v4_waybel11 X1) \wedge (m1_yellow_9 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X2 \in k2_waybel19 X0) \Rightarrow (k4_waybel_0 X0 X2 \in k5_waybel11 X1))))))$$