

t13_yellow12 (TMN-
RpG4ToRD3o3r1NNKXediXBnYWRAXB6tu)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v3_orders_2 \\
& X1) \wedge ((v5_orders_2 X1) \wedge (l1_orders_2 X1)))) \Rightarrow (((g1_orders_2 (\\
& u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) \\
& (u1_orders_2 X1)) \wedge (v24_waybel_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5. \\
& (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X2 = X4) \wedge ((X3 = X5) \wedge (r1_waybel_3 \\
& X0 X2 X3))) \Rightarrow (r1_waybel_3 X1 X4 X5)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X1 \in k2_waybel_3 X0 X2) \Leftrightarrow (r1_waybel_3 \\
& X0 X2 X1))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X1 \in k1_waybel_3 X0 X2) \Leftrightarrow (r1_waybel_3 \\
& X0 X1 X2))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge (l1_orders_2 X1)))) \Rightarrow (((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1)) \wedge (v24_waybel_0 X0)) \Rightarrow (v24_waybel_0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1)) \wedge (v5_orders_2 X0)) \Rightarrow (v5_orders_2 X1))) \quad (6)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1)) \wedge (v3_orders_2 X0)) \Rightarrow (v3_orders_2 X1))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow (\neg (g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1)) \wedge ((\neg v2_struct_0 X0) \wedge (v2_struct_0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow (\forall X2.\forall X3.(g1_orders_2 X0 X1 = g1_orders_2 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \quad (9)$$

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.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k2_waybel_3 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge \\ (l1_orders_2 X0)))\wedge(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(m1_subset_1 \\ (k1_waybel_3 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v5_orders_2 \\ X0)\wedge((v24_waybel_0 X0)\wedge(l1_orders_2 X0))))\Rightarrow(\forall X1.((\\ \neg v2_struct_0 X1)\wedge((v3_orders_2 X1)\wedge(l1_orders_2 X1)))\Rightarrow(\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 \\ (u1_struct_0 X1))\Rightarrow(((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 \\ X0) = g1_orders_2 (u1_struct_0 X1) (u1_orders_2 X1))\wedge(X2 = X3))\Rightarrow \\ ((k1_waybel_3 X0 X2 = k1_waybel_3 X1 X3)\wedge(k2_waybel_3 X0 X2 = k2_waybel_3 \\ X1 X3)))))) \end{aligned}$$