

t35_waybel_7

(TMVxJhxr52ucs4q9T4N6q2s24Kjzt3EYQYJ)

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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 $v3_waybel_3 : \iota \Rightarrow o$ 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 $v4_waybel_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_waybel_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v12_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_waybel_7 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_waybel_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\ &X0) \wedge (l1_orders_2 X0)))) \Rightarrow ((v24_waybel_0 X0) \Leftrightarrow (\forall X1. ((\neg \\ v1_xboole_0 X1) \wedge ((v1_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ &(u1_struct_0 X0))))) \Rightarrow (r1_yellow_0 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(((X1 = k1_yellow_0 \\
& X0 X2) \wedge (r1_yellow_0 X0 X2)) \Rightarrow ((r2_lattice3 X0 X2 X1) \wedge (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 \\
& X0 X1 X3)))))) \wedge (((r2_lattice3 X0 X2 X1) \wedge (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 X0 X1 \\
& X3)))))) \Rightarrow ((X1 = k1_yellow_0 X0 X2) \wedge (r1_yellow_0 X0 X2)))
\end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v2_lattice3 X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((v3_waybel_3 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\
& (((\neg v1_xboole_0 (k1_waybel_3 X0 X1)) \wedge ((v1_waybel_0 (k1_waybel_3 \\
& X0 X1) X0) \wedge ((v12_waybel_0 (k1_waybel_3 X0 X1) X0) \wedge (m1_subset_1 \\
& k1_waybel_3 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0)))))) \wedge ((r3_orders_2 \\
& X0 X1 (k1_yellow_0 X0 (k1_waybel_3 X0 X1))) \wedge (\forall X2.((\neg v1_xboole_0 \\
& X2) \wedge ((v1_waybel_0 X2 X0) \wedge ((v12_waybel_0 X2 X0) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((r3_orders_2 X0 X1 (k1_yellow_0 \\
& X0 X2)) \Rightarrow (r1_tarski (k1_waybel_3 X0 X1 X2))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((\neg \\
& v1_xboole_0 X1) \wedge ((v1_waybel_0 X1 X0) \wedge ((v12_waybel_0 X1 X0) \wedge (\\
& m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((v1_waybel_7 \\
& X1 X0) \Leftrightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_finset_1 X2) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\neg (k2_yellow_0 X0 X2 \in X1) \wedge \\
& (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg (X3 \in X2) \wedge (X3 \in \\
& X1))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (r3_orders_2 X0 X1 X1) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((r3_orders_2 X0 X1 X2)\Leftrightarrow(r1_orders_2 X0 X1 X2))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (k2_yellow_0 X0 X1) (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r2_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1_orders_2 X0 X3 X2)))))) \quad (11)$$

Assume the following.

$$\forall X0.(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge(l1_orders_2 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow((v4_waybel_7 X1 X0)\Leftrightarrow(\exists X2.((\neg v1_xboole_0 X2)\wedge((v1_waybel_0 X2 X0)\wedge((v12_waybel_0 X2 X0)\wedge((v1_waybel_7 X2 X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\wedge(X1 = k1_yellow_0 X0 X2)))))) \quad (12)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k1_waybel_3 X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 (u1_struct_0 X0)) (\lambda X2 : \iota.r1_waybel_3 X0 X2 X1) (\lambda X2 : \iota.X2)))))) \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(v3_waybel_3 X0)))\Rightarrow(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(v24_waybel_0 X0)\wedge(v2_waybel_3 X0)))))) \quad (14)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v2_lattice3 X0)\Rightarrow(\neg v2_struct_0 X0)) \quad (15)$$

Theorem 1

$$\forall X0.(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge((v3_waybel_3 X0)\wedge(l1_orders_2 X0))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow((v4_waybel_7 X1 X0)\Rightarrow(\forall X2.((\neg v1_xboole_0 X2)\wedge((v1_finset_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(\neg(r1_waybel_3 X0 (k2_yellow_0 X0 X2) X1)\wedge(\forall X3.(m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow(\neg(X3 \in X2)\wedge(r3_orders_2 X0 X3 X1)))))))))) \quad (16)$$