

t12_waybel12 (TMM-
SQY8RSDLidF1WZ7LDW7JZxkmMgwGTkJA)

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Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v2_yellow_0 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_yellow_0 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $k11_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_yellow_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge ((v2_yellow_0 \\ & X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (((v2_lattice3 X0) \wedge ((v4_orders_2 X0) \wedge (v3_orders_2 X0))) \Rightarrow \\ & (k11_lattice3 X0 (k4_yellow_0 X0) X1 = X1)) \wedge ((v1_lattice3 X0) \Rightarrow \\ & (k10_lattice3 X0 (k4_yellow_0 X0) X1 = k4_yellow_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_yellow_4 X0 (k6_domain_1 \\ & (u1_struct_0 X0) X2) X1 = ReplSep (toset (\lambda X3 : \iota. m1_subset_1 \\ & X3 (u1_struct_0 X0))) (\lambda X3 : \iota. X3 \in X1) (\lambda X3 : \iota. k10_lattice3 \\ & X0 X2 X3)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow \\ & (k6_domain_1 X0 X1 = k1_tarski X1) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow(k2_yellow_4 X0 X1 X2 = k1_yellow_4 X0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow(m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (k4_yellow_0 X0) (u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow(k2_yellow_4 X0 X1 X2 = k2_yellow_4 X0 X2 X1) \quad (11)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v1_lattice3 X0)\Rightarrow(\neg v2_struct_0 X0)) \quad (12)$$

Theorem 1

$$\forall X0.(((v5_orders_2 X0)\wedge((v2_yellow_0 X0)\wedge((v1_lattice3 X0)\wedge(l1_orders_2 X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(r1_tarski (k2_yellow_4 X0 X1 (k6_domain_1 (u1_struct_0 X0) (k4_yellow_0 X0))) (k6_domain_1 (u1_struct_0 X0) (k4_yellow_0 X0))))))$$