

t24_abcmiz_0 (TMNv-
GUsS9ZyKhdiSccJWYto6vnKvr9TWXjY)

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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 $v1_abcmiz_0 : \iota \Rightarrow o$ be given. Let $v9_abcmiz_0 : \iota \Rightarrow o$ be given. Let $l2_abcmiz_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_abcmiz_0 : \iota \Rightarrow \iota$ be given. Let $k2_abcmiz_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_abcmiz_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_abcmiz_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_abcmiz_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v1_abcmiz_0 X0) \wedge ((v9_abcmiz_0 X0) \wedge \\ & (l2_abcmiz_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_abcmiz_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((r3_orders_2 X0 X3 X1) \wedge (X2 \in \\ & k2_abcmiz_0 X0 X3)) \Rightarrow ((r1_abcmiz_0 X0 X1 X2) \wedge (r3_orders_2 X0 X3 \\ & (k5_abcmiz_0 X0 X1 X2))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v1_abcmiz_0 X0) \wedge ((v9_abcmiz_0 X0) \wedge \\ & (l2_abcmiz_0 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_abcmiz_0 X0)) \Rightarrow ((r1_abcmiz_0 \\ & X0 X1 X2) \Rightarrow (r3_orders_2 X0 (k5_abcmiz_0 X0 X1 X2) X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ & X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ & m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow (r3_orders_2 X0 X1 X1) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((r3_orders_2 X0 X1 X2)\Leftrightarrow(r1_orders_2 X0 X1 X2)) \quad (4)$$

Assume the following.

$$\forall X0.(l2_abcmiz_0 X0)\Rightarrow((l1_orders_2 X0)\wedge(l1_abcmiz_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge(l2_abcmiz_0 X0))))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_abcmiz_0 X0))))\Rightarrow(m1_subset_1 (k5_abcmiz_0 X0 X1 X2) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v5_orders_2 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(((r1_orders_2 X0 X1 X2)\wedge(r1_orders_2 X0 X2 X1))\Rightarrow(X1 = X2)))))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v1_lattice3 X0)\Rightarrow(\neg v2_struct_0 X0)) \quad (8)$$

Theorem 1

$$\forall X0.(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v1_abcmiz_0 X0)\wedge((v9_abcmiz_0 X0)\wedge(l2_abcmiz_0 X0))))))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_abcmiz_0 X0))\Rightarrow((X2 \in k2_abcmiz_0 X0 X1)\Rightarrow((r1_abcmiz_0 X0 X1 X2)\wedge(k5_abcmiz_0 X0 X1 X2 = X1))))))$$