

l44_poset_1
(TMTyQQQSJddZz5zFJ5RneM1EAz5tahtYup4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ 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 $v1_poset_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v6_orders_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_yellow_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (&((\neg v2_struct_0 X0) \wedge (v3_orders_2 \\ &X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge \\ &m1_subset_1 X2 (u1_struct_0 X0))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\ &X0 X1 X2)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (l1_orders_2 X0) \Rightarrow (m1_subset_1 (k1_yellow_0 X0 X1) (u1_struct_0 X0)) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_orders_2 X0) \Rightarrow (&\forall X1. \forall X2. (m1_subset_1 \\ &X2 (u1_struct_0 X0)) \Rightarrow ((r1_yellow_0 X0 X1) \Rightarrow ((X2 = k1_yellow_0 X0 \\ &X1) \Leftrightarrow ((r2_lattice3 X0 X1 X2) \wedge (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\ &X0)) \Rightarrow ((r2_lattice3 X0 X1 X3) \Rightarrow (r1_orders_2 X0 X2 X3))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_orders_2 X0) \Rightarrow (&\forall X1. \forall X2. (m1_subset_1 \\ &X2 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3. (m1_subset_1 \\ &X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1_orders_2 X0 X3 X2)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_orders_2 X0) \Rightarrow ((v1_poset_1 X0) \Leftrightarrow ((v1_yellow_0 \\ X0) \wedge (\forall X1. ((v6_orders_2 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))))) \Rightarrow ((\neg v1_xboole_0 X1) \Rightarrow (r1_yellow_0 X0 X1)))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge ((v3_orders_2 \\ X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 X0) \wedge (\\ l1_orders_2 X0))))))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v6_orders_2 \\ X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((\forall X3. (m1_subset_1 \\ X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r3_orders_2 X0 X3 X2))) \Rightarrow (r3_orders_2 \\ X0 (k1_yellow_0 X0 X1) X2)))) \end{aligned}$$