

l4_lattice6

(TMXJoeEtxb5b56pBmu6UCovp7VF4tkwNwFx)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v8_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_lattice3 : \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $k5_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v8_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\neg(\neg v1_xboole_0 X1) \wedge (\forall X2. (m1_subset_1 \\ X2 (u1_struct_0 (k3_lattice3 X0))) \Rightarrow (\exists X3. (m1_subset_1 \\ X3 (u1_struct_0 (k3_lattice3 X0))) \wedge ((X3 \in X1) \wedge (\neg r3_orders_2 (\\ k3_lattice3 X0) X3 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0)\Rightarrow((l1_lattices\ X0)\wedge(l2_lattices\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l2_lattices\ X0)\Rightarrow(l1_struct_0\ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge \\ (l3_lattices\ X0)))\wedge(m1_subset_1\ X1\ (u1_struct_0\ (k3_lattice3 \\ X0))))\Rightarrow(m1_subset_1\ (k5_lattice3\ X0\ X1)\ (u1_struct_0\ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge(l3_lattices \\ X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ (k3_lattice3 \\ X0)))\Rightarrow(k5_lattice3\ X0\ X1 = X1)) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0)\wedge((v8_struct_0\ X0)\wedge((v10_lattices \\ X0)\wedge(l3_lattices\ X0))))\Rightarrow(\exists X1.(m1_subset_1\ X1\ (u1_struct_0 \\ (k3_lattice3\ X0)))\wedge(\forall X2.(m1_subset_1\ X2\ (u1_struct_0 \\ (k3_lattice3\ X0)))\Rightarrow(r3_orders_2\ (k3_lattice3\ X0)\ X2\ X1))) \end{aligned}$$