

t41_lattice3 (TMc- SZm41vyBz4RpETuARhzA9Kd8p9qKr1DU)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v4_lattice3 : \iota \Rightarrow o$ 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 $r3_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $r1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $v5_lattices : \iota \Rightarrow o$ be given. Let $v7_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge (l2_lattices \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((r1_lattices X0 X1 X2) \wedge (r1_lattices \\ & X0 X2 X1)) \Rightarrow (X1 = X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 \\ & X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (r3_lattice3 X0 X1 X2) \Rightarrow (r3_lattices X0 X1 (k16_lattice3 \\ & X0 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 \\ & X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (X1 \in X2) \Rightarrow ((r3_lattices X0 X1 (k15_lattice3 X0 \\ & X2)) \wedge (r3_lattices X0 (k16_lattice3 X0 X2) X1)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v6_lattices \\ & X0) \wedge (v8_lattices X0) \wedge ((v9_lattices X0) \wedge (l3_lattices X0)))) \wedge \\ & ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0)))) \Rightarrow ((r3_lattices X0 X1 X2) \Leftrightarrow (r1_lattices X0 X1 X2)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(l3_lattices\ X0)\Rightarrow((l1_lattices\ X0)\wedge(l2_lattices\ X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2_struct_0\ X0)\wedge(l3_lattices\ X0))\Rightarrow(m1_subset_1\ (k16_lattice3\ X0\ X1)\ (u1_struct_0\ X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0)\Rightarrow(((\neg v2_struct_0\ X0)\wedge(v10_lattices\ X0))\Rightarrow((\neg v2_struct_0\ X0)\wedge((v4_lattices\ X0)\wedge((v5_lattices\ X0)\wedge((v6_lattices\ X0)\wedge((v7_lattices\ X0)\wedge((v8_lattices\ X0)\wedge(v9_lattices\ X0)))))))) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3\ X0)\wedge(l3_lattices\ X0))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.((X1\ \in\ X2)\wedge(r3_lattice3\ X0\ X1\ X2))\Rightarrow(k16_lattice3\ X0\ X2 = X1)))$$