

t12_lattice6
(TMSRwaDPn7i6tMqn46pW8z64RfsbXyUkrHe)

October 27, 2020

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 $v3_lattice6 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_lattice6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_lattice6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_lattice6 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k15_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 \\ X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ X0)) \Rightarrow ((r3_lattices X0 X1 (k3_lattice6 X0 X1)) \wedge (r3_lattices X0 \\ (k4_lattice6 X0 X1) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge (l2_lattices \\ X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((r1_lattices X0 X1 X2) \wedge (r1_lattices \\ X0 X2 X1)) \Rightarrow (X1 = X2)))) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge \\ &((v4_lattice3\ X0)\wedge(l3_lattices\ X0))))\wedge(m1_subset_1\ X1\ (u1_struct_0 \\ &X0)))\Rightarrow(m1_subset_1\ (k3_lattice6\ X0\ X1)\ (u1_struct_0\ X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3 \\ &X0)\wedge(l3_lattices\ X0))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ &X0))\Rightarrow((v3_lattice6\ X1\ X0)\Leftrightarrow(k3_lattice6\ X0\ X1\neq X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3 \\ &X0)\wedge(l3_lattices\ X0))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ &X0))\Rightarrow(k3_lattice6\ X0\ X1 = k16_lattice3\ X0\ (ReplSep\ (toset\ (\lambda X2 : \\ &\iota.m1_subset_1\ X2\ (u1_struct_0\ X0)))\ (\lambda X2 : \iota.(r3_lattices \\ &X0\ X1\ X2)\wedge(X2\neq X1))\ (\lambda X2 : \iota.X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge(l3_lattices \\ &X0)))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2. \\ &(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow((r1_lattice6\ X0\ X1\ X2)\Leftrightarrow((X1\neq \\ &X2)\wedge((r3_lattices\ X0\ X2\ X1)\wedge(\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ &X0))\Rightarrow(\neg(r3_lattices\ X0\ X2\ X3)\wedge((r3_lattices\ X0\ X3\ X1)\wedge((X3\neq X1)\wedge \\ &(X3\neq X2)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.(l3_lattices\ X0)\Rightarrow(((\neg v2_struct_0\ X0)\wedge(v10_lattices \\ &X0))\Rightarrow((\neg v2_struct_0\ X0)\wedge((v4_lattices\ X0)\wedge((v5_lattices\ X0)\wedge \\ &((v6_lattices\ X0)\wedge((v7_lattices\ X0)\wedge((v8_lattices\ X0)\wedge(v9_lattices \\ &X0)))))))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3 \\ &X0)\wedge(l3_lattices\ X0))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ &X0))\Rightarrow((v3_lattice6\ X1\ X0)\Rightarrow((r1_lattice6\ X0\ (k3_lattice6\ X0\ X1) \\ &X1)\wedge(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow((r1_lattice6 \\ &X0\ X2\ X1)\Rightarrow(X2 = k3_lattice6\ X0\ X1)))))) \end{aligned}$$