

t24_lattices

(TMFnhFfVh1zDx7cLPqhECffWwABs3fu7MG)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v17_lattices : \iota \Rightarrow o$ 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 $k7_lattices : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v5_lattices : \iota \Rightarrow o$ be given. Let $v7_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct.0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices \\ X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1.(m1_subset.1 X1 (u1_struct.0 \\ X0)) \Rightarrow (\forall X2.(m1_subset.1 X2 (u1_struct.0 X0)) \Rightarrow (k7_lattices \\ X0 (k4_lattices X0 X1 X2) = k3_lattices X0 (k7_lattices X0 X1) (k7_lattices \\ X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2_struct.0 X0) \wedge ((v10_lattices X0) \wedge \\ ((v17_lattices X0) \wedge (l3_lattices X0)))) \wedge (m1_subset.1 X1 (u1_struct.0 \\ X0))) \Rightarrow (k7_lattices X0 (k7_lattices X0 X1) = X1) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2_struct.0 X0) \wedge (l3_lattices X0)) \wedge \\ (m1_subset.1 X1 (u1_struct.0 X0))) \Rightarrow (m1_subset.1 (k7_lattices \\ X0 X1) (u1_struct.0 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct.0 X0) \wedge ((v6_lattices \\ X0) \wedge (l1_lattices X0))) \wedge ((m1_subset.1 X1 (u1_struct.0 X0)) \wedge \\ (m1_subset.1 X2 (u1_struct.0 X0)))) \Rightarrow (m1_subset.1 (k4_lattices \\ X0 X1 X2) (u1_struct.0 X0)) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0. (&l3_lattices\ X0) \Rightarrow (((\neg v2_struct_0\ X0) \wedge (v10_lattices \\ &X0)) \Rightarrow ((\neg v2_struct_0\ X0) \wedge ((v4_lattices\ X0) \wedge ((v5_lattices\ X0) \wedge \\ &((v6_lattices\ X0) \wedge ((v7_lattices\ X0) \wedge ((v8_lattices\ X0) \wedge (v9_lattices \\ &X0)))))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0\ X0) \wedge ((v10_lattices\ X0) \wedge ((v17_lattices \\ &X0) \wedge (l3_lattices\ X0)))) \Rightarrow (\forall X1. (m1_subset_1\ X1\ (u1_struct_0 \\ &X0)) \Rightarrow (\forall X2. (m1_subset_1\ X2\ (u1_struct_0\ X0)) \Rightarrow (k7_lattices \\ &X0\ (k3_lattices\ X0\ X1\ X2) = k4_lattices\ X0\ (k7_lattices\ X0\ X1)\ (k7_lattices \\ &X0\ X2)))) \end{aligned}$$