

t62_lattice2 (TMbqGsmEKNsmiP- kpXkmw6sQKh84udXFWB24)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v14_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $k6_lattices : \iota \Rightarrow \iota$ be given. Let $k5_lattices : \iota \Rightarrow \iota$ be given. Let $k1_lattice2 : \iota \Rightarrow \iota$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $v1_setwiseo : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $g3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $v3_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v14_lattices X0) \wedge (l3_lattices X0)))) \Rightarrow (k6_lattices X0 = k4_binop_1 (u1_struct_0 X0) (u1_lattices X0)) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v1_setwiseo (u2_lattices X0) (u1_struct_0 X0)) \Rightarrow (k5_lattices X0 = k4_binop_1 (u1_struct_0 X0) (u2_lattices X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v3_lattices (k1_lattice2 X0)) \wedge (v10_lattices (k1_lattice2 X0))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v1_funct_1 (u1_lattices X0)) \wedge ((v1_funct_2 (u1_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (v3_binop_1 (u1_lattices X0) (u1_struct_0 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v1_funct_1 (u2_lattices X0)) \wedge ((v1_funct_2 (u2_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (v3_binop_1 (u2_lattices X0) (u1_struct_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((\neg v2_struct_0 (k1_lattice2 X0)) \wedge (v3_lattices (k1_lattice2 X0))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v14_lattices X0) \wedge (l3_lattices X0)))) \Rightarrow ((v1_funct_1 (u1_lattices X0)) \wedge ((v1_funct_2 (u1_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (v1_setwiseo (u1_lattices X0) (u1_struct_0 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(l2_lattices X0) \Rightarrow ((v1_funct_1 (u2_lattices X0)) \wedge ((v1_funct_2 (u2_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_lattices X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.(l1_lattices X0) \Rightarrow ((v1_funct_1 (u1_lattices X0)) \wedge ((v1_funct_2 (u1_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_lattices X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (10)$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow ((v3_lattices (k1_lattice2 X0)) \wedge (l3_lattices (k1_lattice2 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0) \Rightarrow (k1_lattice2\ X0 = g3_lattices\ (u1_struct_0\ X0)\ (u1_lattices\ X0)\ (u2_lattices\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0) \Rightarrow ((v3_lattices\ X0) \Rightarrow (X0 = g3_lattices\ (u1_struct_0\ X0)\ (u2_lattices\ X0)\ (u1_lattices\ X0))) \quad (14)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0\ X0) \wedge ((v10_lattices\ X0) \wedge ((v14_lattices\ X0) \wedge (l3_lattices\ X0)))) \Rightarrow (k6_lattices\ X0 = k5_lattices\ (k1_lattice2\ X0))$$