

t68\_lattice2 (TMT-  
metbsq7Dc4RVbYxWcmLGWR9bYZPDN4wb)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v8\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k1\_lattice2 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_lattices : \iota \Rightarrow \iota$  be given. Let  $u1\_lattices : \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $l1\_lattices : \iota \Rightarrow o$  be given. Let  $l2\_lattices : \iota \Rightarrow o$  be given. Let  $v3\_lattices : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow ((u1\_struct\_0 \\ &X0 = u1\_struct\_0 (k1\_lattice2 X0)) \wedge ((r1\_funct\_2 (k2\_zfmisc\_1 \\ &(u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 X0) (k2\_zfmisc\_1 \\ &(u1\_struct\_0 (k1\_lattice2 X0)) (u1\_struct\_0 (k1\_lattice2 X0))) \\ &(u1\_struct\_0 (k1\_lattice2 X0)) (u2\_lattices X0) (u1\_lattices \\ &(k1\_lattice2 X0))) \wedge (r1\_funct\_2 (k2\_zfmisc\_1 (u1\_struct\_0 X0) \\ &(u1\_struct\_0 X0)) (u1\_struct\_0 X0) (k2\_zfmisc\_1 (u1\_struct\_0 \\ &(k1\_lattice2 X0)) (u1\_struct\_0 (k1\_lattice2 X0))) (u1\_struct\_0 \\ &(k1\_lattice2 X0)) (u1\_lattices X0) (u2\_lattices (k1\_lattice2 \\ &X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v8\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_finset\_1 (u1\_struct\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l3\_lattices X0) \Rightarrow ((l1\_lattices X0) \wedge (l2\_lattices X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l2\_lattices X0) \Rightarrow (l1\_struct\_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. (l3\_lattices X0) \Rightarrow ((v3\_lattices (k1\_lattice2 X0)) \wedge (l3\_lattices (k1\_lattice2 X0))) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_struct\_0 X0) \Rightarrow ((v8\_struct\_0 X0) \Leftrightarrow (v1\_finset\_1 (u1\_struct\_0 X0))) \quad (6)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices X0))) \Rightarrow ((v8\_struct\_0 X0) \Leftrightarrow (v8\_struct\_0 (k1\_lattice2 X0)))$$