

t39\_lattice3  
(TMQdSnixhXmZU9WofAquhgduk8ttdf77jam)

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  $r3\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k16\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v4\_lattice3 \\ X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(X1 = k16\_lattice3 X0 X2) \Leftrightarrow ((r3\_lattice3 X0 X1 \\ X2) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((r3\_lattice3 \\ X0 X3 X2) \Rightarrow (r3\_lattices X0 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow (m1\_subset\_1 (k16\_lattice3 X0 X1) (u1\_struct\_0 X0)) \quad (2)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v4\_lattice3 \\ X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(r3\_lattice3 X0 X1 X2) \Rightarrow (r3\_lattices X0 X1 (k16\_lattice3 \\ X0 X2)))) \end{aligned}$$