

## t22\_yellow\_2

(TMWa3XWqrJ91WQdBGuo7DV3mHudpiYD3i5L)

October 27, 2020

Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_lattice3 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v3\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(X1 = k2\_yellow\_0 X0 X2) \Leftrightarrow ((r1\_lattice3 X0 X2 X1) \wedge \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((r1\_lattice3 \\ & X0 X2 X3) \Rightarrow (r1\_orders\_2 X0 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v3\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(X1 = k1\_yellow\_0 X0 X2) \Leftrightarrow ((r2\_lattice3 X0 X2 X1) \wedge \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((r2\_lattice3 \\ & X0 X2 X3) \Rightarrow (r1\_orders\_2 X0 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ & X0 X1 X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (l1\_orders\_2 X0) \Rightarrow (m1\_subset\_1 (k2\_yellow\_0 X0 X1) (u1\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2 X0)\Rightarrow(m1\_subset\_1 (k1\_yellow\_0 X0 X1) (u1\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r2\_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1\_orders\_2 X0 X3 X2)))))) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1\_orders\_2 X0 X2 X3)))))) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v1\_lattice3 X0)\Rightarrow(\neg v2\_struct\_0 X0)) \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.(((v3\_orders\_2 X1)\wedge((v4\_orders\_2 X1)\wedge(v5\_orders\_2 X1)\wedge((v1\_lattice3 X1)\wedge((v2\_lattice3 X1)\wedge((v3\_lattice3 X1)\wedge(l1\_orders\_2 X1))))))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X1))\Rightarrow((X2 \in X0)\Rightarrow((r3\_orders\_2 X1 X2 (k1\_yellow\_0 X1 X0))\wedge(r3\_orders\_2 X1 (k2\_yellow\_0 X1 X0) X2))))))$$