

t35\_yellow\_7  
(TMEs29svB9SUyasie5SMb8EkgnFQUQGGEFri)

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  $v3\_yellow\_0 : \iota \Rightarrow o$  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  $r6\_waybel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $k8\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_yellow\_0 : \iota \Rightarrow o$  be given. Let  $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_yellow\_0 : \iota \Rightarrow o$  be given. Let  $k13\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k4\_yellow\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_yellow\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v2\_yellow\_0 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow ((r2\_yellow\_0 X0 k1\_xboole\_0) \wedge (r1\_yellow\_0 X0 (u1\_struct\_0 X0))) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_yellow\_0 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow ((r1\_yellow\_0 X0 k1\_xboole\_0) \wedge (r2\_yellow\_0 X0 (u1\_struct\_0 X0))) \quad (2)$$

Assume the following.

$$\forall X0. ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k13\_lattice3 X0 X1 X2 = k12\_lattice3 (k7\_lattice3 X0) (k8\_lattice3 X0 X1) (k8\_lattice3 X0 X2)))) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ X0) \wedge ((v2\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (k12\_lattice3 X0 X1 X2 = k13\_lattice3 (k7\_lattice3 X0) (k8\_lattice3 \\ X0 X1) (k8\_lattice3 X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ ((r2\_yellow\_0 X0 X1) \vee (r1\_yellow\_0 (k7\_lattice3 X0) X1)) \Rightarrow (k2\_yellow\_0 \\ X0 X1 = k1\_yellow\_0 (k7\_lattice3 X0) X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ ((r1\_yellow\_0 X0 X1) \vee (r2\_yellow\_0 (k7\_lattice3 X0) X1)) \Rightarrow (k1\_yellow\_0 \\ X0 X1 = k2\_yellow\_0 (k7\_lattice3 X0) X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v5\_orders\_2 X0) \wedge ((v1\_lattice3 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k13\_lattice3 X0 X1 X2 = k10\_lattice3 \\ X0 X1 X2) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v5\_orders\_2 X0) \wedge ((v2\_lattice3 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k12\_lattice3 X0 X1 X2 = k11\_lattice3 \\ X0 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow ((v1\_orders\_2 \\ (k7\_lattice3 X0)) \wedge (v2\_lattice3 (k7\_lattice3 X0))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2\_lattice3 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow ((v1\_orders\_2 \\ (k7\_lattice3 X0)) \wedge (v1\_lattice3 (k7\_lattice3 X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow ((v1\_orders\_2 (k7\_lattice3 X0)) \wedge (( \\ v3\_orders\_2 (k7\_lattice3 X0)) \wedge ((v4\_orders\_2 (k7\_lattice3 X0)) \wedge \\ (v5\_orders\_2 (k7\_lattice3 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_orders\_2 X0)\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k8\_lattice3 X0 X1) (u1\_struct\_0 (k7\_lattice3 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v1\_orders\_2 (k7\_lattice3 X0))\wedge(l1\_orders\_2 (k7\_lattice3 X0))) \quad (13)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k8\_lattice3 X0 X1 = X1)) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r6\_waybel\_1 X0 X1 X2)\Leftrightarrow((k10\_lattice3 X0 X1 X2 = k4\_yellow\_0 X0)\wedge(k11\_lattice3 X0 X1 X2 = k3\_yellow\_0 X0)))))) \quad (15)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(k4\_yellow\_0 X0 = k2\_yellow\_0 X0 k1\_xboole\_0) \quad (16)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(k3\_yellow\_0 X0 = k1\_yellow\_0 X0 k1\_xboole\_0) \quad (17)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v3\_yellow\_0 X0)\Rightarrow((v1\_yellow\_0 X0)\wedge(v2\_yellow\_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow((v1\_lattice3 X0)\Rightarrow(\neg v2\_struct\_0 X0)) \quad (19)$$

**Theorem 1**

$$\forall X0.((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v1\_lattice3 X0)\wedge((v2\_lattice3 X0)\wedge((v3\_yellow\_0 X0)\wedge(l1\_orders\_2 X0))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r6\_waybel\_1 X0 X1 X2)\Leftrightarrow(r6\_waybel\_1 (k7\_lattice3 X0) (k8\_lattice3 X0 X1) (k8\_lattice3 X0 X2))))))$$