

t24\_waybel15  
(TMdMGQju7f6jZWbqFvNNioASLdniJfqSn6P)

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Let  $v2\_struct.0 : \iota \Rightarrow o$  be given. Let  $v5\_orders.2 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v1\_yellow.0 : \iota \Rightarrow o$  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  $v1\_waybel15 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_yellow.0 : \iota \Rightarrow \iota$  be given. Let  $r1\_orders.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_orders.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct.0 X0) \wedge ((v5\_orders.2 X0) \wedge ((v1\_yellow.0 X0) \wedge (l1\_orders.2 X0)))) \Rightarrow (\forall X1.(m1\_subset.1 X1 (u1\_struct.0 X0)) \Rightarrow (r1\_orders.2 X0 (k3\_yellow.0 X0) X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v5\_orders.2 X0) \wedge ((v2\_lattice3 X0) \wedge (l1\_orders.2 X0))) \Rightarrow (\forall X1.(m1\_subset.1 X1 (u1\_struct.0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset.1 X2 (u1\_struct.0 X0)) \Rightarrow (\forall X3.(m1\_subset.1 X3 (u1\_struct.0 X0)) \Rightarrow ((X3 = k12\_lattice3 X0 X1 X2) \Leftrightarrow ((r1\_orders.2 X0 X3 X1) \wedge ((r1\_orders.2 X0 X3 X2) \wedge (\forall X4.(m1\_subset.1 X4 (u1\_struct.0 X0)) \Rightarrow ((r1\_orders.2 X0 X4 X1) \wedge (r1\_orders.2 X0 X4 X2)) \Rightarrow (r1\_orders.2 X0 X4 X3)))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0.(l1\_orders.2 X0) \Rightarrow (m1\_subset.1 (k3\_yellow.0 X0) (u1\_struct.0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v5\_orders.2 X0) \wedge ((v2\_lattice3 X0) \wedge (l1\_orders.2 X0))) \wedge ((m1\_subset.1 X1 (u1\_struct.0 X0)) \wedge (m1\_subset.1 X2 (u1\_struct.0 X0)))) \Rightarrow (m1\_subset.1 (k12\_lattice3 X0 X1 X2) (u1\_struct.0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_orders.2 X0) \Rightarrow (\forall X1.(m1\_subset.1 X1 (u1\_struct.0 X0)) \Rightarrow (\forall X2.(m1\_subset.1 X2 (u1\_struct.0 X0)) \Rightarrow ((r2\_orders.2 X0 X1 X2) \Leftrightarrow ((r1\_orders.2 X0 X1 X2) \wedge (X1 \neq X2)))))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((v1\_waybel15 X1 X0) \Leftrightarrow ((r2\_orders\_2 \\ & X0 (k3\_yellow\_0 X0) X1) \wedge (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (((r2\_orders\_2 X0 (k3\_yellow\_0 X0) X2) \wedge (r1\_orders\_2 X0 X2 \\ & X1)) \Rightarrow (X2 = X1)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v5\_orders\_2 X0) \wedge ((v2\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k12\_lattice3 X0 X1 X2 = k12\_lattice3 \\ & X0 X2 X1) \end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v2\_lattice3 \\ & X0) \wedge ((v1\_yellow\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (((v1\_waybel15 X1 X0) \wedge (v1\_waybel15 X2 X0)) \Rightarrow ((X1 = X2) \vee (k12\_lattice3 \\ & X0 X1 X2 = k3\_yellow\_0 X0)))))) \end{aligned}$$