

t3\_waybel30 (TMUhX-  
aAj6e9jQXpjnx2VP6FgwWWYCcpc6kd)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_waybel\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v3\_orders\_2 X1) \wedge \\ & ((v4\_orders\_2 X1) \wedge (l1\_orders\_2 X1)))) \Rightarrow ((m1\_subset\_1 X0 (u1\_struct\_0 \\ & (k2\_yellow\_1 (k7\_waybel\_0 X1)))) \Leftrightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_waybel\_0 \\ & X0 X1) \wedge ((v12\_waybel\_0 X0 X1) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1))))))) \end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_waybel\_0 \\ X1 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))))) \Rightarrow ((\neg v1\_xboole\_0 \\ (k3\_tarski X1)) \wedge ((v1\_waybel\_0 (k3\_tarski X1) X0) \wedge ((v12\_waybel\_0 \\ (k3\_tarski X1) X0) \wedge (m1\_subset\_1 (k3\_tarski X1) (k1\_zfmisc\_1 ( \\ u1\_struct\_0 X0)))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(u1\_struct\_0 (k2\_yellow\_1 X0) = X0) \wedge (u1\_orders\_2 ( \\ k2\_yellow\_1 X0) = k1\_yellow\_1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ X0 X1 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_waybel\_0 \\ X1 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))))) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))) \Rightarrow \\ ((X2 = k3\_tarski X1) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ (k2\_yellow\_1 (k7\_waybel\_0 X0)))) \Rightarrow ((r2\_lattice3 (k2\_yellow\_1 \\ (k7\_waybel\_0 X0)) X1 X3) \Rightarrow (r3\_orders\_2 (k2\_yellow\_1 (k7\_waybel\_0 \\ X0)) X2 X3)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_waybel\_0 \\ X1 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))))) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))) \Rightarrow \\ ((X2 = k3\_tarski X1) \Rightarrow (r2\_lattice3 (k2\_yellow\_1 (k7\_waybel\_0 X0)) \\ X1 X2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v2\_struct\_0 (k2\_yellow\_1 X0)) \wedge \\ (v1\_orders\_2 (k2\_yellow\_1 X0))) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v3\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v4\_orders\_2 (k2\_yellow\_1 X0)) \wedge (v5\_orders\_2 (k2\_yellow\_1 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge (l1\_orders\_2 (k2\_yellow\_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v1\_waybel\_0 X1 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))))) \Rightarrow (k1\_yellow\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)) X1 = k3\_tarski X1)) \end{aligned}$$