

l3\_waybel30 (TM-  
NfdQS8UgKCyLAb3AUmsykSQvUbe6ds1ZF)

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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  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\ (k2\_yellow\_1 X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ (k2\_yellow\_1 X0))) \Rightarrow ((r3\_orders\_2 (k2\_yellow\_1 X0) X1 X2) \Leftrightarrow (r1\_tarski \\ X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ X0 X1 X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v2\_struct\_0 (k2\_yellow\_1 X0)) \wedge (v1\_orders\_2 (k2\_yellow\_1 X0))) \tag{3}$$

Assume the following.

$$\forall X0. (v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v3\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v4\_orders\_2 (k2\_yellow\_1 X0)) \wedge (v5\_orders\_2 (k2\_yellow\_1 X0)))) \tag{4}$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\neg v1\_xboole\_0 (k7\_waybel\_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge (l1\_orders\_2 (k2\_yellow\_1 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow ((r2\_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3.(m1\_subset\_1 \\ X3 (u1\_struct\_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1\_orders\_2 X0 X3 X2)))))) \quad (7) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k3\_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X2 \in X3) \wedge (X3 \in X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (9)$$

**Theorem 1**

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