

t7\_yellow\_1 (TMWRjnHh-  
BioaS2xsxV7kDW6EBcmCHVTfKt1)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  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.

$$\begin{aligned} \forall X0. ((v5\_orders\_2 X0) \wedge ((v2\_lattice3 X0) \wedge (l1\_orders\_2 \\ X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow ((X3 = k12\_lattice3 X0 X1 X2) \Leftrightarrow ((r1\_orders\_2 \\ X0 X3 X1) \wedge ((r1\_orders\_2 X0 X3 X2) \wedge (\forall X4. (m1\_subset\_1 X4 ( \\ u1\_struct\_0 X0)) \Rightarrow (((r1\_orders\_2 X0 X4 X1) \wedge (r1\_orders\_2 X0 X4 X2)) \Rightarrow \\ (r1\_orders\_2 X0 X4 X3)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski \\ X0 X2)) \Rightarrow (r1\_tarski X0 (k3\_xboole\_0 X1 X2)) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ X0 X1 X2)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v5\_orders\_2 X0) \wedge ((v2\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (k12\_lattice3 X0 X1 X2 = k11\_lattice3 \\ & X0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v2\_struct\_0 (k2\_yellow\_1 X0)) \wedge (v1\_orders\_2 (k2\_yellow\_1 X0))) \quad (6)$$

Assume the following.

$$\forall X0. (v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v3\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v4\_orders\_2 (k2\_yellow\_1 X0)) \wedge (v5\_orders\_2 (k2\_yellow\_1 X0)))) \quad (7)$$

Assume the following.

$$\forall X0. (v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge (l1\_orders\_2 (k2\_yellow\_1 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((l1\_orders\_2 X0) \wedge ((m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ & (k11\_lattice3 X0 X1 X2) (u1\_struct\_0 X0))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((v2\_lattice3 (k2\_yellow\_1 X0)) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 (k2\_yellow\_1 X0))) \Rightarrow \\ & (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 (k2\_yellow\_1 X0))) \Rightarrow \\ & (r1\_tarski (k11\_lattice3 (k2\_yellow\_1 X0) X1 X2) (k3\_xboole\_0 \\ & X1 X2)))))) \end{aligned}$$