

t9_yellow_0 (TMF-
dLE9DQLpxDLT1EstPa47QW481hNDRThR)

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Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 \\ X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1_orders_2 X0 X3 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 \\ X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1_orders_2 X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.\forall X2.(r1_tarski \\ X1 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((r1_lattice3 \\ X0 X2 X3) \Rightarrow (r1_lattice3 X0 X1 X3)) \wedge ((r2_lattice3 X0 X2 X3) \Rightarrow (r2_lattice3 \\ X0 X1 X3)))))) \end{aligned}$$