

t13_lattice3

(TMdh31rGfrt4J4bqbXTzQzRwEp41dsr2kDN)

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Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ 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 $k10_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 \\
& X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((X3 = k10_lattice3 X0 X1 X2) \Leftrightarrow \\
& ((r1_orders_2 X0 X1 X3) \wedge ((r1_orders_2 X0 X2 X3) \wedge (\forall X4. (m1_subset_1 \\
& X4 (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X1 X4) \wedge (r1_orders_2 X0 \\
& X2 X4)) \Rightarrow (r1_orders_2 X0 X3 X4))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Leftrightarrow (\forall X1. (\\
& m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\exists X3. (m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\
& ((r1_orders_2 X0 X1 X3) \wedge ((r1_orders_2 X0 X2 X3) \wedge (\forall X4. (m1_subset_1 \\
& X4 (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X1 X4) \wedge (r1_orders_2 X0 \\
& X2 X4)) \Rightarrow (r1_orders_2 X0 X3 X4))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge (l1_orders_2 \\
& X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k10_lattice3 X0 X1 X2 = k10_lattice3 \\
& X0 X2 X1)))
\end{aligned}$$