

l28_lattice3
(TMUey65Nn1CeDLrJPnmvsjyp2TfMKnuF29a)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ 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 $k11_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow ((v5_orders_2 X0) \Rightarrow (\forall X1.(\\
& m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow ((\exists X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \wedge ((r1_orders_2 X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 \\
& X0 X4 X2)) \Rightarrow (r1_orders_2 X0 X4 X3)))))) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((X3 = k11_lattice3 X0 X1 X2) \Leftrightarrow ((r1_orders_2 \\
& X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4.(m1_subset_1 X4 (\\
& u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 X0 X4 X2)) \Rightarrow \\
& (r1_orders_2 X0 X4 X3))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Leftrightarrow (\forall X1.(\\
& m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\
& ((r1_orders_2 X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 X0 \\
& X4 X2)) \Rightarrow (r1_orders_2 X0 X4 X3))))))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge ((v2_lattice3 \\
& X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((X3 = k11_lattice3 X0 X1 X2) \Leftrightarrow \\
& ((r1_orders_2 X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4.(m1_subset_1 \\
& X4 (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 X0 \\
& X4 X2)) \Rightarrow (r1_orders_2 X0 X4 X3))))))))))
\end{aligned}$$