

t39_yellow_0

(TMNs3HQcxF6DCeUsjckTnJPzSheDag9YhHj)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ 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 $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((r1_lattice3 \\
 & X0 (k1_tarski X2) X1) \Rightarrow (r1_orders_2 X0 X1 X2)) \wedge (((r1_orders_2 X0 \\
 & X1 X2) \Rightarrow (r1_lattice3 X0 (k1_tarski X2) X1)) \wedge (((r2_lattice3 X0 (\\
 & k1_tarski X2) X1) \Rightarrow (r1_orders_2 X0 X2 X1)) \wedge ((r1_orders_2 X0 X2 X1) \Rightarrow \\
 & (r2_lattice3 X0 (k1_tarski X2) X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(((X1 = k2_yellow_0 \\
 & X0 X2) \wedge (r2_yellow_0 X0 X2)) \Rightarrow ((r1_lattice3 X0 X2 X1) \wedge (\forall X3. \\
 & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 \\
 & X0 X3 X1)))))) \wedge (((r1_lattice3 X0 X2 X1) \wedge (\forall X3.(m1_subset_1 \\
 & X3 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 X0 X3 \\
 & X1)))) \Rightarrow ((X1 = k2_yellow_0 X0 X2) \wedge (r2_yellow_0 X0 X2))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(((X1 = k1_yellow_0 \\
& X0 X2) \wedge (r1_yellow_0 X0 X2)) \Rightarrow ((r2_lattice3 X0 X2 X1) \wedge (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 \\
& X0 X1 X3)))))) \wedge (((r2_lattice3 X0 X2 X1) \wedge (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 X0 X1 \\
& X3)))))) \Rightarrow ((X1 = k1_yellow_0 X0 X2) \wedge (r1_yellow_0 X0 X2))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \tag{4}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \tag{6}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v3_orders_2 X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (r1_orders_2 X0 X1 X1))) \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow ((k1_yellow_0 X0 (k6_domain_1 (u1_struct_0 X0) X1) = X1) \wedge \\
& (k2_yellow_0 X0 (k6_domain_1 (u1_struct_0 X0) X1) = X1)))
\end{aligned}$$