

t12_yellow11 (TMTRxg-
pipm7hEh7myxCLmmsVQyH9PKDGNc7)

October 27, 2020

Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_yellow11 : \iota \Rightarrow o$ be given. Let $v2_waybel_1 : \iota \Rightarrow o$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow11 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_lattice3 :$

$\iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((\neg(\exists X1.((v4_yellow_0 X1 X0) \wedge ((v5_yellow_0 X1 X0) \wedge ((v6_yellow_0 \\
& X1 X0) \wedge (m1_yellow_0 X1 X0)))))) \wedge (r5_waybel_1 k2_yellow11 X1)) \wedge \\
& (\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 (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. \\
& (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((X1 \neq X3) \wedge ((X1 \neq \\
& X4) \wedge ((X1 \neq X5) \wedge ((X2 \neq X3) \wedge ((X2 \neq X4) \wedge ((X2 \neq X5) \wedge ((X3 \neq X4) \wedge ((X3 \neq X5) \wedge \\
& ((X4 \neq X5) \wedge ((k12_lattice3 X0 X1 X2 = X1) \wedge ((k12_lattice3 X0 X1 X3 = \\
& X1) \wedge ((k12_lattice3 X0 X1 X4 = X1) \wedge ((k12_lattice3 X0 X2 X5 = X2) \wedge (\\
& (k12_lattice3 X0 X3 X5 = X3) \wedge ((k12_lattice3 X0 X4 X5 = X4) \wedge ((k12_lattice3 \\
& X0 X2 X3 = X1) \wedge ((k12_lattice3 X0 X2 X4 = X1) \wedge ((k12_lattice3 X0 X3 X4 = \\
& X1) \wedge ((k13_lattice3 X0 X2 X3 = X5) \wedge ((k13_lattice3 X0 X2 X4 = X5) \wedge (\\
& k13_lattice3 X0 X3 X4 = X5)))))))))))))))))) \wedge (\neg(\exists X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\exists X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \wedge (\exists X3.(m1_subset_1 X3 (u1_struct_0 X0)) \wedge \\
& (\exists X4.(m1_subset_1 X4 (u1_struct_0 X0)) \wedge (\exists X5.(m1_subset_1 \\
& X5 (u1_struct_0 X0)) \wedge ((X1 \neq X2) \wedge ((X1 \neq X3) \wedge ((X1 \neq X4) \wedge ((X1 \neq X5) \wedge \\
& ((X2 \neq X3) \wedge ((X2 \neq X4) \wedge ((X2 \neq X5) \wedge ((X3 \neq X4) \wedge ((X3 \neq X5) \wedge ((X4 \neq X5) \wedge (\\
& (k12_lattice3 X0 X1 X2 = X1) \wedge ((k12_lattice3 X0 X1 X3 = X1) \wedge ((k12_lattice3 \\
& X0 X1 X4 = X1) \wedge ((k12_lattice3 X0 X2 X5 = X2) \wedge ((k12_lattice3 X0 X3 X5 = \\
& X3) \wedge ((k12_lattice3 X0 X4 X5 = X4) \wedge ((k12_lattice3 X0 X2 X3 = X1) \wedge (\\
& (k12_lattice3 X0 X2 X4 = X1) \wedge ((k12_lattice3 X0 X3 X4 = X1) \wedge ((k13_lattice3 \\
& X0 X2 X3 = X5) \wedge ((k13_lattice3 X0 X2 X4 = X5) \wedge (k13_lattice3 X0 X3 X4 = \\
& X5)))))))))))))))))) \wedge (\forall X1.((v4_yellow_0 X1 \\
& X0) \wedge ((v5_yellow_0 X1 X0) \wedge ((v6_yellow_0 X1 X0) \wedge (m1_yellow_0 X1 \\
& X0)))))) \Rightarrow (\neg r5_waybel_1 k2_yellow11 X1)))
\end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((v1_yellow11 X0) \Rightarrow ((v2_waybel_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 \\
& (u1_struct_0 X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((X1 \neq X3) \wedge ((X1 \neq X4) \wedge ((X1 \neq X5) \wedge (\\
& (X2 \neq X3) \wedge ((X2 \neq X4) \wedge ((X2 \neq X5) \wedge ((X3 \neq X4) \wedge ((X3 \neq X5) \wedge ((X4 \neq X5) \wedge (\\
& k12_lattice3 X0 X1 X2 = X1) \wedge ((k12_lattice3 X0 X1 X3 = X1) \wedge ((k12_lattice3 \\
& X0 X1 X4 = X1) \wedge ((k12_lattice3 X0 X2 X5 = X2) \wedge ((k12_lattice3 X0 X3 X5 = \\
& X3) \wedge ((k12_lattice3 X0 X4 X5 = X4) \wedge ((k12_lattice3 X0 X2 X3 = X1) \wedge (\\
& (k12_lattice3 X0 X2 X4 = X1) \wedge ((k12_lattice3 X0 X3 X4 = X1) \wedge ((k13_lattice3 \\
& X0 X2 X3 = X5) \wedge ((k13_lattice3 X0 X2 X4 = X5) \wedge (k13_lattice3 X0 X3 X4 = \\
& X5))))))))))))))))))))) \\
& \tag{2}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((v1_yellow11 X0) \Rightarrow ((v2_waybel_1 X0) \Leftrightarrow (\forall X1.((v4_yellow_0 \\
& X1 X0) \wedge ((v5_yellow_0 X1 X0) \wedge ((v6_yellow_0 X1 X0) \wedge (m1_yellow_0 \\
& X1 X0)))))) \Rightarrow (\neg r5_waybel_1 k2_yellow11 X1)))
\end{aligned}$$