

t38_waybel_9 (TMXR-
CAC5vyZhceqGQ6QnqrsmyaaQv3oX83Y)

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Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v8_pre_topc : \iota \Rightarrow o$ be given. 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 $v1_compts_1 : \iota \Rightarrow o$ be given. Let $l1_waybel_9 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_waybel_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_yellow_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_waybel_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ 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. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(((v2_pre_topc X0) \wedge ((v8_pre_topc X0) \wedge ((v3_orders_2 \\
& X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge \\
& ((v2_lattice3 X0) \wedge ((v1_compts_1 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((\\
& \neg v2_struct_0 X2) \wedge ((v4_orders_2 X2) \wedge ((v7_waybel_0 X2) \wedge (l1_waybel_0 \\
& X2 X0)))) \Rightarrow (((\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (v5_pre_topc \\
& (k4_waybel_1 X0 X3) X0 X0)) \wedge ((v10_waybel_0 X2 X0) \wedge (r3_waybel_9 \\
& X0 X2 X1))) \Rightarrow (X1 = k1_waybel_2 X0 X2))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge ((v8_pre_topc \\
& X0) \wedge ((v1_compts_1 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow (\forall X1.(((\neg \\
& v2_struct_0 X1) \wedge ((v4_orders_2 X1) \wedge ((v7_waybel_0 X1) \wedge (l1_waybel_0 \\
& X1 X0)))) \Rightarrow ((\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (((r3_waybel_9 X0 X1 X2) \wedge (r3_waybel_9 \\
& X0 X1 X3)) \Rightarrow (X2 = X3)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow ((r3_waybel_9 X0 X1 X2) \Rightarrow (X2 \in k10_yellow_6 X0 X1))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge ((v8_pre_topc \\ X0) \wedge ((v1_compts_1 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow (\forall X1.((\neg \\ v2_struct_0 X1) \wedge ((v4_orders_2 X1) \wedge ((v7_waybel_0 X1) \wedge (l1_waybel_0 \\ X1 X0)))))) \Rightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 X0) \wedge (r3_waybel_9 \\ X0 X1 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (r1_yellow_0 X0 X1) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\ X0) \wedge ((r2_lattice3 X0 X1 X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0) \Rightarrow ((r2_lattice3 X0 X1 X3) \Rightarrow (r1_orders_2 X0 X2 X3))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\ X0 X1 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge ((v8_pre_topc X0) \wedge ((v3_orders_2 \\ X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge \\ ((v2_lattice3 X0) \wedge ((v1_compts_1 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\ (\forall X1.((\neg v2_struct_0 X1) \wedge ((v4_orders_2 X1) \wedge ((v7_waybel_0 \\ X1) \wedge (l1_waybel_0 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0) \Rightarrow (((X2 = X3) \wedge \\ ((\forall X4.(m1_subset_1 X4 (u1_struct_0 X0) \Rightarrow (v5_pre_topc \\ (k4_waybel_1 X0 X4) X0 X0) \wedge (r3_waybel_9 X0 X1 X2))) \Rightarrow (\forall X4. \\ (m1_subset_1 X4 (u1_struct_0 X0) \Rightarrow ((r2_lattice3 X0 (k2_reset_1 \\ (u1_struct_0 X0) (u1_waybel_0 X0 X1) X4) \Rightarrow (r3_orders_2 X0 X3 X4)))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge ((v8_pre_topc X0) \wedge ((v3_orders_2 \\ X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge \\ ((v2_lattice3 X0) \wedge ((v1_compts_1 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\ (\forall X1.((\neg v2_struct_0 X1) \wedge ((v4_orders_2 X1) \wedge ((v7_waybel_0 \\ X1) \wedge (l1_waybel_0 X1 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0) \Rightarrow (((X2 = X3) \wedge \\ ((\forall X4.(m1_subset_1 X4 (u1_struct_0 X0) \Rightarrow (v5_pre_topc \\ (k4_waybel_1 X0 X4) X0 X0) \wedge ((v10_waybel_0 X1 X0) \wedge (r3_waybel_9 \\ X0 X1 X2)))))) \Rightarrow (r2_lattice3 X0 (k2_reset_1 (u1_struct_0 X0) (u1_waybel_0 \\ X0 X1) X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1_waybel_9 X0) \Rightarrow ((l1_pre_topc X0) \wedge (l1_orders_2 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_waybel_0 X1 X0) \Rightarrow \\ ((r1_waybel_9 X0 X1) \Leftrightarrow (r1_yellow_0 X0 (k2_relset_1 (u1_struct_0 \\ X0) (u1_waybel_0 X0 X1)))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge ((v8_pre_topc X0) \wedge ((v3_orders_2 \\ X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge \\ ((v2_lattice3 X0) \wedge ((v1_compts_1 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\ ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v5_pre_topc \\ (k4_waybel_1 X0 X1) X0 X0)) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((\\ v4_orders_2 X1) \wedge ((v7_waybel_0 X1) \wedge (l1_waybel_0 X1 X0)))))) \Rightarrow ((\\ v10_waybel_0 X1 X0) \Rightarrow ((r1_waybel_9 X0 X1) \wedge (k1_waybel_2 X0 X1 \in k10_yellow_6 \\ X0 X1)))))) \end{aligned}$$