

t24_waybel_5

(TMaQGruLTffvehKfi7TSqaNKUoViJrMvbwA)

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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 $v1_waybel_5 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge \\
& (l1_orders_2 X0)))))) \Rightarrow ((\forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v2_relat_1 X2) \wedge ((v4_relat_1 X2 X1) \wedge ((v1_funct_1 \\
& X2) \wedge (v1_partfun1 X2 X1)))))) \Rightarrow (\forall X3. (m2_pboole X3 X1 X2 (k7_funcop_1 \\
& X1 (u1_struct_0 X0))) \Rightarrow ((\forall X4. (m1_subset_1 X4 X1) \Rightarrow (v1_waybel_0 \\
& (k2_relset_1 (u1_struct_0 X0) (k1_waybel_5 X1 (u1_struct_0 X0) \\
& X2 X3 X4)) X0) \Rightarrow (k5_yellow_2 X0 (k4_waybel_5 X0 X3) = k4_yellow_2 \\
& X0 (k5_waybel_5 X0 (k2_waybel_5 X1 (u1_struct_0 X0) X2 X3)))))) \Rightarrow \\
& (v3_waybel_3 X0))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v1_waybel_5 \\
& X0) \Leftrightarrow ((v3_lattice3 X0) \wedge (\forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v2_relat_1 X2) \wedge ((v4_relat_1 X2 X1) \wedge ((v1_funct_1 \\
& X2) \wedge (v1_partfun1 X2 X1)))))) \Rightarrow (\forall X3. (m2_pboole X3 X1 X2 (k7_funcop_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (k5_yellow_2 X0 (k4_waybel_5 X0 X3) = k4_yellow_2 \\
& X0 (k5_waybel_5 X0 (k2_waybel_5 X1 (u1_struct_0 X0) X2 X3)))))))))
\end{aligned} \tag{2}$$

Assume the following.

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

Theorem 1

$$\begin{aligned}
& \forall X0. ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v1_waybel_5 X0) \wedge \\
& (l1_orders_2 X0)))))) \Rightarrow (v3_waybel_3 X0)
\end{aligned}$$