

t50_yellow_7

(TMa4J4wqEQLScEaGvMVHPVXBsUChz7Zhw49)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k7_lattice3 : \iota \Rightarrow \iota$ be given. Let $k4_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v5_orders_2 X0) \wedge ((v3_lattice3 \\ & X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 \\ & X1)) \Rightarrow ((k4_yellow_2 X0 X1 = k5_yellow_2 (k7_lattice3 X0) X1) \wedge (k5_yellow_2 \\ & X0 X1 = k4_yellow_2 (k7_lattice3 X0) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (u1_struct_0 X0 = u1_struct_0 (k7_lattice3 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_funcop_1 X2))) \Rightarrow (((k9_xtuple_0 \\ & X1 = k9_xtuple_0 X2) \wedge (\forall X3. (X3 \in k9_xtuple_0 X1) \Rightarrow (k5_yellow_2 \\ & X0 (k1_funct_1 X1 X3) = k5_yellow_2 X0 (k1_funct_1 X2 X3)))) \Rightarrow (r1_funct_2 \\ & (k9_xtuple_0 X1) (u1_struct_0 X0) (k9_xtuple_0 X2) (u1_struct_0 \\ & X0) (k5_waybel_5 X0 X1) (k5_waybel_5 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_funcop_1 X2))) \Rightarrow (((k9_xtuple_0 \\
& X1 = k9_xtuple_0 X2) \wedge (\forall X3.(X3 \in k9_xtuple_0 X1) \Rightarrow (k4_yellow_2 \\
& X0 (k1_funct_1 X1 X3) = k4_yellow_2 X0 (k1_funct_1 X2 X3)))) \Rightarrow (r1_funct_2 \\
& (k9_xtuple_0 X1) (u1_struct_0 X0) (k9_xtuple_0 X2) (u1_struct_0 \\
& X0) (k4_waybel_5 X0 X1) (k4_waybel_5 X0 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 \\
& X0))) \Rightarrow ((v1_relat_1 (k1_funct_1 X0 X1)) \wedge (v1_funct_1 (k1_funct_1 \\
& X0 X1)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((\neg v2_struct_0 \\
& (k7_lattice3 X0)) \wedge (v1_orders_2 (k7_lattice3 X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1_orders_2 X0) \Rightarrow ((v1_orders_2 (k7_lattice3 X0)) \wedge \\
& (l1_orders_2 (k7_lattice3 X0)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1)))) \Rightarrow ((v1_funct_1 \\
& (k4_waybel_5 X0 X1)) \wedge ((v1_funct_2 (k4_waybel_5 X0 X1) (k9_xtuple_0 \\
& X1) (u1_struct_0 X0)) \wedge (m1_subset_1 (k4_waybel_5 X0 X1) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k9_xtuple_0 X1) (u1_struct_0 X0)))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k9_xtuple_0 X1) (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\
& X1) (u1_struct_0 X0))))) \Rightarrow ((X2 = k5_waybel_5 X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X2 X3 = k5_yellow_2 X0 (k1_funct_1 \\
& X1 X3))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k9_xtuple_0 X1) (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\
& X1) (u1_struct_0 X0)))))) \Rightarrow ((X2 = k4_waybel_5 X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X2 X3 = k4_yellow_2 X0 (k1_funct_1 \\
& X1 X3))))))
\end{aligned} \tag{10}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (v5_orders_2 X0) \wedge ((v3_lattice3 \\
& X0) \wedge (l1_orders_2 X0))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\
& X1) \wedge (v1_funcop_1 X1))) \Rightarrow ((r1_funct_2 (k9_xtuple_0 X1) (u1_struct_0 \\
& X0) (k9_xtuple_0 X1) (u1_struct_0 (k7_lattice3 X0)) (k4_waybel_5 \\
& X0 X1) (k5_waybel_5 (k7_lattice3 X0) X1)) \wedge (r1_funct_2 (k9_xtuple_0 \\
& X1) (u1_struct_0 X0) (k9_xtuple_0 X1) (u1_struct_0 (k7_lattice3 \\
& X0)) (k5_waybel_5 X0 X1) (k4_waybel_5 (k7_lattice3 X0) X1))))
\end{aligned}$$