

t65_waybel_0
(TMKpzhuHE6zbCViqQ7R2RrhpcK53UwBPwAe)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k7_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((\\ & g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 \\ & X1) (u1_orders_2 X1)) \Rightarrow (\forall X2.(r2_yellow_0 X0 X2) \Rightarrow (k2_yellow_0 \\ & X0 X2 = k2_yellow_0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((\\ & g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 \\ & X1) (u1_orders_2 X1)) \Rightarrow (\forall X2.(r1_yellow_0 X0 X2) \Rightarrow (k1_yellow_0 \\ & X0 X2 = k1_yellow_0 X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow ((\\ & g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 (u1_struct_0 \\ & X1) (u1_orders_2 X1)) \Rightarrow (\forall X2.((r1_yellow_0 X0 X2) \Rightarrow (r1_yellow_0 \\ & X1 X2)) \wedge ((r2_yellow_0 X0 X2) \Rightarrow (r2_yellow_0 X1 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& ((\neg v1_xboole_0 X1)\wedge(\neg v1_xboole_0 X3)\wedge(((v1_funct_1 X4)\wedge((\\
& v1_funct_2 X4 X0 X1)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X1))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X2 X3)\wedge(m1_subset_1 \\
& X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3))))))\Rightarrow((r1_funct_2 X0 X1 \\
& X2 X3 X4 X5)\Leftrightarrow(X4 = X5))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\
& k1_zfmisc_1 (k2_zfmisc_1 X0 X1))\Rightarrow(k7_relset_1 X0 X1 X2 X3 = k7_relat_1 \\
& X2 X3))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\
& (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0))\Rightarrow(k3_funct_2 X0 \\
& X1 X2 X3 = k1_funct_1 X2 X3))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0))\Rightarrow(\forall X2.\forall X3.(g1_orders_2 X0 X1 = g1_orders_2 \\
& X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 \\
& (u1_struct_0 X0))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0)\Rightarrow(l1_struct_0 X0)
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (k2_yellow_0 \\
& X0 X1) (u1_struct_0 X0))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.(l1_orders_2 X0)\Rightarrow(m1_subset_1 (k1_yellow_0 \\
& X0 X1) (u1_struct_0 X0))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& ((r4_waybel_0 X0 X1 X2 X3) \Leftrightarrow ((r1_yellow_0 X0 X3) \Rightarrow ((r1_yellow_0 \\
& X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3)) \wedge (k1_yellow_0 \\
& X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) = k3_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X1) X2 (k1_yellow_0 X0 X3))))))))) \Rightarrow
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow (\forall X2.((v1_funct_1 \\
& X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\
& X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& ((r3_waybel_0 X0 X1 X2 X3) \Leftrightarrow ((r2_yellow_0 X0 X3) \Rightarrow ((r2_yellow_0 \\
& X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3)) \wedge (k2_yellow_0 \\
& X1 (k7_relset_1 (u1_struct_0 X0) (u1_struct_0 X1) X2 X3) = k3_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X1) X2 (k2_yellow_0 X0 X3))))))))) \Rightarrow
\end{aligned} \tag{14}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow (\forall X2.((\neg v2_struct_0 \\
& X2) \wedge (l1_orders_2 X2)) \Rightarrow (\forall X3.((\neg v2_struct_0 X3) \wedge (l1_orders_2 \\
& X3)) \Rightarrow (((g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0) = g1_orders_2 \\
& (u1_struct_0 X2) (u1_orders_2 X2)) \wedge (g1_orders_2 (u1_struct_0 \\
& X1) (u1_orders_2 X1) = g1_orders_2 (u1_struct_0 X3) (u1_orders_2 \\
& X3))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 \\
& X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 (u1_struct_0 X2) (u1_struct_0 X3)) \wedge (m1_subset_1 \\
& X5 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X2) (u1_struct_0 X3)))))) \Rightarrow \\
& ((r1_funct_2 (u1_struct_0 X0) (u1_struct_0 X1) (u1_struct_0 X2) \\
& (u1_struct_0 X3) X4 X5) \Rightarrow (\forall X6.(m1_subset_1 X6 (k1_zfmisc_1 \\
& (u1_struct_0 X0))) \Rightarrow (\forall X7.(m1_subset_1 X7 (k1_zfmisc_1 \\
& (u1_struct_0 X2))) \Rightarrow ((X6 = X7) \Rightarrow (((r4_waybel_0 X0 X1 X4 X6) \Rightarrow (r4_waybel_0 \\
& X2 X3 X5 X7)) \wedge ((r3_waybel_0 X0 X1 X4 X6) \Rightarrow (r3_waybel_0 X2 X3 X5 X7))))))))))))) \Rightarrow
\end{aligned}$$