

t21_waybel35 (TMPYLJzwnCk- BxMPR2KtQcM2YXzQT5mgPnCJ)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_waybel_4 : \iota \Rightarrow \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_waybel35 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel35 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_waybel35 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k3_waybel35 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X1 X2) \wedge (r1_orders_2 X0 X2 \\ & X1)) \Rightarrow (X1 = X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.((v1_waybel_4 X1 X0) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X0)))))) \Rightarrow (\forall X2.\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (r2_lattice3 X0 (k4_waybel35 X0 X1 X2 X3) X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (r1_yellow_0 X0 X1) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \wedge ((r2_lattice3 X0 X1 X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r2_lattice3 X0 X1 X3) \Rightarrow (r1_orders_2 X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.\forall X3. \\ & (X2 \in k3_waybel35 X0 X1 X3) \Leftrightarrow ((k4_tarski X2 X3 \in X0) \wedge (X2 \in X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((l1_struct_0 X0)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X0))))))\Rightarrow(k4_waybel35 X0 X1 X2 X3 = k3_waybel35 X1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_struct_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))))\Rightarrow(\forall X2. \\ & (m1_waybel35 X2 X0 X1)\Rightarrow(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0))\Rightarrow((r1_yellow_0 X0 X1)\Rightarrow((X2 = k1_yellow_0 X0 \\ & X1)\Leftrightarrow((r2_lattice3 X0 X1 X2)\wedge(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0))\Rightarrow((r2_lattice3 X0 X1 X3)\Rightarrow(r1_orders_2 X0 X2 X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0))\Rightarrow((r2_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1_orders_2 X0 X3 X2)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))\Rightarrow \\ & ((r1_waybel35 X0 X1 X2)\Leftrightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 X0))\Rightarrow(\neg(X3 \in X1)\wedge \\ & ((X4 \in X1)\wedge(k4_tarski X3 X4 \in X2)\wedge((X3\neq X4)\wedge(\forall X5.(m1_subset_1 \\ & X5 (u1_struct_0 X0))\Rightarrow(\neg(X5 \in X1)\wedge((k4_tarski X3 X5 \in X2)\wedge((k4_tarski \\ & X5 X4 \in X2)\wedge(X3\neq X5)))))))))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0))))\Rightarrow((v1_waybel_4 \\ & X1 X0)\Leftrightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0))\Rightarrow((k4_tarski X2 X3 \in X1)\Rightarrow(r1_orders_2 \\ & X0 X2 X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \Rightarrow (\forall X2. \\
& (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((m1_waybel35 \quad (12) \\
& \quad X2 X0 X1) \Leftrightarrow (\forall X3.\forall X4.\neg(X3 \in X2) \wedge ((X4 \in X2) \wedge ((\neg k4_tarski \\
& \quad X3 X4 \in X1) \wedge ((X3 \neq X4) \wedge (\neg k4_tarski X4 X3 \in X1))))))
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (13)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\
& \quad X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.((v1_waybel_4 X1 X0) \wedge (m1_subset_1 \\
& \quad X1 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \Rightarrow \\
& \quad (\forall X2.(m1_waybel35 X2 X0 X1) \Rightarrow ((\forall X3.(m1_subset_1 \\
& \quad X3 (u1_struct_0 X0) \Rightarrow ((X3 \in X2) \Rightarrow ((r1_yellow_0 X0 (k4_waybel35 \\
& \quad X0 X1 X2 X3)) \wedge (X3 = k1_yellow_0 X0 (k4_waybel35 X0 X1 X2 X3)))))) \Rightarrow (\\
& \quad \quad r1_waybel35 X0 X2 X1))))
\end{aligned}$$