

t53_waybel_2

(TMUxSYQh4FqF3nGhcrRd6c6jq279j3YC82Z)

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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 $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v2_waybel_2 : \iota \Rightarrow o$ be given. Let $v22_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_2 : \iota \Rightarrow \iota$ be given. Let $k3_yellow_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_yellow_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_2 : \iota \Rightarrow o$ be given. Let $k11_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_yellow_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v24_waybel_0 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& (\neg v1_xboole_0 X2) \wedge ((v1_waybel_0 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (u1_struct_0 X0)))))) \Rightarrow ((r3_orders_2 X0 X1 (k1_yellow_0 X0 X2)) \Rightarrow \\
& (r3_orders_2 X0 X1 (k1_yellow_0 X0 (k4_yellow_4 X0 (k6_domain_1 \\
& (u1_struct_0 X0) X1) X2)))))) \Rightarrow (v22_waybel_0 (k4_waybel_2 X0 \\
& (k3_yellow_3 X0 X0) X0))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v2_lattice3 X0) \wedge ((v1_waybel_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\
& ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(\\
& (\neg v1_xboole_0 X2) \wedge ((v1_waybel_0 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (u1_struct_0 X0)))))) \Rightarrow ((r3_orders_2 X0 X1 (k1_yellow_0 X0 X2)) \Rightarrow \\
& (X1 = k1_yellow_0 X0 (k4_yellow_4 X0 (k6_domain_1 (u1_struct_0 \\
& X0) X1) X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge (l1_orders_2 X0)))) \Rightarrow ((\forall X1.((\neg v1_xboole_0 X1) \wedge ((\\ v1_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_waybel_0 X2 X0) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (k11_lattice3 \\ X0 (k1_yellow_0 X0 X1) (k1_yellow_0 X0 X2) = k1_yellow_0 X0 (k3_yellow_4 \\ X0 X1 X2)))) \Rightarrow (v1_waybel_2 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow ((v22_waybel_0 \\ (k4_waybel_2 X0) (k3_yellow_3 X0 X0) X0) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\ X1) \wedge ((v1_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_waybel_0 X2 X0) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (k11_lattice3 \\ X0 (k1_yellow_0 X0 X1) (k1_yellow_0 X0 X2) = k1_yellow_0 X0 (k3_yellow_4 \\ X0 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (r3_orders_2 X0 X1 X1) \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow ((v2_waybel_2 X0) \Leftrightarrow ((v24_waybel_0 X0) \wedge (v1_waybel_2 X0))) \quad (6)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (7)$$

Theorem 1

$$\begin{aligned} \forall X0. ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v24_waybel_0 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ ((v2_waybel_2 X0) \Leftrightarrow (v22_waybel_0 (k4_waybel_2 X0) (k3_yellow_3 \\ X0 X0) X0)) \end{aligned}$$