

t17_waybel15

(TMQ6kpZgFFpu8wAohwdw8E2rEUfuVyAWLnT)

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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 $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $v2_waybel_8 : \iota \Rightarrow o$ 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 $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v2_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v17_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v22_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_yellow_1 : \iota \Rightarrow \iota$ be given. Let $v6_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_waybel_8 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & ((\exists X1. \exists X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\ & (k3_yellow_1 X1)) (u1_struct_0 (k3_yellow_1 X1))) \wedge ((v6_waybel_1 \\ & X2 (k3_yellow_1 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 (k3_yellow_1 X1)) (u1_struct_0 (k3_yellow_1 X1)))))) \wedge \\ & ((v22_waybel_0 X2 (k3_yellow_1 X1) (k3_yellow_1 X1)) \wedge (r5_waybel_1 \\ & X0 (k1_yellow_2 (k3_yellow_1 X1) (k3_yellow_1 X1) X2)))))) \Rightarrow (v3_waybel_3 \\ & X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v1_yellow_0 X0) \wedge \\
& (l1_orders_2 X0)))))) \Rightarrow (\neg(\exists X1.((v3_orders_2 X1) \wedge ((v4_orders_2 \\
& X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge \\
& ((v1_yellow_0 X1) \wedge ((v2_waybel_8 X1) \wedge (l1_orders_2 X1)))))) \wedge \\
& (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X1) \\
& (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))) \wedge ((v2_funct_2 X2 (u1_struct_0 \\
& X0)) \wedge ((v17_waybel_0 X2 X1 X0) \wedge (v22_waybel_0 X2 X1 X0)))) \wedge (\forall X1. \\
& (\neg v1_xboole_0 X1) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 \\
& X2 (u1_struct_0 (k3_yellow_1 X1)) (u1_struct_0 (k3_yellow_1 X1))) \wedge \\
& ((v6_waybel_1 X2 (k3_yellow_1 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 (k3_yellow_1 X1)) (u1_struct_0 (k3_yellow_1 \\
& X1)))))) \Rightarrow (\neg(v22_waybel_0 X2 (k3_yellow_1 X1) (k3_yellow_1 \\
& X1)) \wedge (r5_waybel_1 X0 (k1_yellow_2 (k3_yellow_1 X1) (k3_yellow_1 \\
& X1) X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\
& X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v1_yellow_0 X0) \wedge \\
& (l1_orders_2 X0)))))) \Rightarrow (\neg(v3_waybel_3 X0) \wedge (\forall X1.((v3_orders_2 \\
& X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge \\
& ((v2_lattice3 X1) \wedge ((v1_yellow_0 X1) \wedge ((v3_waybel_8 X1) \wedge (l1_orders_2 \\
& X1)))))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\
& X1) (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow (\neg(v2_funct_2 X2 (u1_struct_0 \\
& X0)) \wedge ((v17_waybel_0 X2 X1 X0) \wedge (v22_waybel_0 X2 X1 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\
& (v3_waybel_8 X0)))))) \Rightarrow ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\
& ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (v2_waybel_8 \\
& X0))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v1_yellow_0 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow ((v3_waybel_3 X0) \Leftrightarrow (\exists X1.((v3_orders_2 \\ & X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge \\ & ((v2_lattice3 X1) \wedge ((v1_yellow_0 X1) \wedge ((v2_waybel_8 X1) \wedge (l1_orders_2 \\ & X1)))))))) \wedge (\exists X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 \\ & X1) (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X1) (u1_struct_0 X0)))))) \wedge ((v2_funct_2 X2 (u1_struct_0 \\ & X0)) \wedge ((v17_waybel_0 X2 X1 X0) \wedge (v22_waybel_0 X2 X1 X0)))))) \end{aligned}$$