

t2_waybel34

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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 $v3_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ 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 $v17_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_waybel34 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_waybel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_orders_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_waybel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
 & \quad X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1. ((\neg \\
 & \quad v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 \\
 & \quad X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 \\
 & \quad X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & \quad (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3. \\
 & \quad ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\
 & \quad X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\
 & \quad X1) (u1_struct_0 X0)))))) \Rightarrow ((v3_waybel_1 (k1_waybel_1 X0 X1 X2 \\
 & \quad X3) X0 X1) \Leftrightarrow ((v5_orders_3 X2 X0 X1) \wedge (\forall X4. (m1_subset_1 X4 \\
 & \quad (u1_struct_0 X1)) \Rightarrow (r3_waybel_1 X0 (k3_funct_2 (u1_struct_0 X1) \\
 & \quad (u1_struct_0 X0) X3 X4) (k8_relset_1 (u1_struct_0 X0) (u1_struct_0 \\
 & \quad X1) X2 (k6_waybel_0 X1 X4))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\
 & \quad (l1_orders_2 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((\neg v1_xboole_0 \\
 & \quad (k6_waybel_0 X0 X1)) \wedge (v2_waybel_0 (k6_waybel_0 X0 X1) X0))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k6_waybel_0 \\ & X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (m1_subset_1 (\\ & k3_funct_2 X0 X1 X2 X3) X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\ & (l1_orders_2 X0)))))) \wedge (((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge \\ & ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge (l1_orders_2 \\ & X1)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (\\ & u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (\\ & u1_struct_0 X0) (u1_struct_0 X1))))))))) \Rightarrow ((v1_funct_1 (k1_waybel34 \\ & X0 X1 X2) \wedge ((v1_funct_2 (k1_waybel34 X0 X1 X2) (u1_struct_0 X1) \\ & (u1_struct_0 X0)) \wedge (m1_subset_1 (k1_waybel34 X0 X1 X2) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (r3_waybel_1 X0 \\ & X1 X2) \Leftrightarrow ((r2_yellow_0 X0 X2) \wedge ((X1 = k2_yellow_0 X0 X2) \wedge (k2_yellow_0 \\ & X0 X2 \in X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & (\forall X1. ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 \\ & X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) \\ & (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (((v3_lattice3 X0) \wedge (\\ & v17_waybel_0 X2 X0 X1)) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 \\ & X3 (u1_struct_0 X1) (u1_struct_0 X0)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))) \Rightarrow ((X3 = k1_waybel34 \\ & X0 X1 X2) \Leftrightarrow (v3_waybel_1 (k1_waybel_1 X0 X1 X2 X3) X0 X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v3_orders_2 X1) \wedge ((v4_orders_2 \\ & X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge \\ & ((v3_lattice3 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (\forall X2.((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v17_waybel_0 \\ & X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X1)) \Rightarrow (k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) (k1_waybel34 \\ & X0 X1 X2) X3 = k2_yellow_0 X0 (k8_relset_1 (u1_struct_0 X0) (u1_struct_0 \\ & X1) X2 (k6_waybel_0 X1 X3)))))) \end{aligned}$$