

t54_waybel_2

(TMb3f3TKi1GvHnN4AuzAtYPFwTjNPgfo9zy)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_waybel_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $v1_waybel_2 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\
 & X0))) \Rightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
 & ((\neg v2_struct_0 X2) \wedge ((v7_waybel_0 X2) \wedge (l1_waybel_0 X2 X0))) \Rightarrow \\
 & ((v10_waybel_0 X2 X0) \Rightarrow (k11_lattice3 X0 X1 (k1_waybel_2 X0 X2) = \\
 & k1_yellow_0 X0 (k3_yellow_4 X0 (k6_domain_1 (u1_struct_0 X0) X1) \\
 & (k2_reset_1 (u1_struct_0 X0) (k1_waybel_0 X0 X2)))))) \Rightarrow (v1_waybel_2 \\
 & X0))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\
 & X0))) \Rightarrow ((v1_waybel_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v7_waybel_0 X2) \wedge (l1_waybel_0 \\
 & X2 X0))) \Rightarrow ((v10_waybel_0 X2 X0) \Rightarrow (k11_lattice3 X0 X1 (k1_waybel_2 \\
 & X0 X2) = k1_yellow_0 X0 (k3_yellow_4 X0 (k6_domain_1 (u1_struct_0 \\
 & X0) X1) (k2_reset_1 (u1_struct_0 X0) (k1_waybel_0 X0 X2))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5_orders_2 X0)\wedge((v2_lattice3 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow(k4_yellow_4 X0 X1 X2 = k3_yellow_4 X0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v5_orders_2 X0)\wedge((v2_lattice3 X0)\wedge(l1_orders_2 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k12_lattice3 X0 X1 X2 = k11_lattice3 X0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow(m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k2_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\wedge(l1_waybel_0 X1 X0))\Rightarrow(m1_subset_1 (k1_waybel_2 X0 X1) (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\wedge((\neg v2_struct_0 X1)\wedge(l1_waybel_0 X1 X0)))\Rightarrow(((v1_funct_1 (k1_waybel_0 X0 X1))\wedge((v1_funct_2 (k1_waybel_0 X0 X1) (u1_struct_0 X1) (u1_struct_0 X0))\wedge(m1_subset_1 (k1_waybel_0 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0))))))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v24_waybel_0 X0)\wedge(v1_waybel_2 X0))))\Rightarrow((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(v2_waybel_2 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v2_waybel_2 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge (v1_waybel_2 X0)))))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & ((v2_waybel_2 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.((\neg v2_struct_0 X2) \wedge ((v7_waybel_0 X2) \wedge (l1_waybel_0 X2 X0)))) \Rightarrow ((v10_waybel_0 X2 X0) \Rightarrow (k12_lattice3 X0 X1 (k1_waybel_2 X0 X2) = k1_yellow_0 X0 (k4_yellow_4 X0 (k6_domain_1 (u1_struct_0 X0) X1) (k2_relset_1 (u1_struct_0 X0) (k1_waybel_0 X0 X2)))))))))) \end{aligned}$$