

t45_waybel23 (TM- FifQvCvEa2PECSqUULbSFzFdmBBUEyfs8)

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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 $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_waybel23 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_waybel_8 : \iota \Rightarrow \iota$ be given. Let $v2_waybel_8 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_waybel_8 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_waybel23 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_8 : \iota \Rightarrow o$ be given. Let $v2_waybel_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (k2_waybel_8 X0 X1 = k8_subset_1 (u1_struct_0 \\ & X0) (k1_waybel_3 X0 X1) (u1_struct_0 (k1_waybel_8 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k8_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ & ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge (l1_orders_2 X0)))))) \wedge (\\ & m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (k2_waybel_8 \\ & X0 X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge \\ ((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge(l1_orders_2 X0))))))\wedge(\\ m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(v1_waybel_0 (k2_waybel_8 \\ X0 X1) X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 \\ X0)\wedge((v1_lattice3 X0)\wedge((v3_waybel_3 X0)\wedge(l1_orders_2 X0))))))\Rightarrow \\ (\forall X1.(m1_waybel23 X1 X0)\Rightarrow(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 \\ X0)\wedge((v1_lattice3 X0)\wedge((v3_waybel_3 X0)\wedge(l1_orders_2 X0))))))\Rightarrow \\ (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow \\ ((m1_waybel23 X1 X0)\Leftrightarrow((v2_waybel23 X1 X0)\wedge(\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0))\Rightarrow(X2 = k1_yellow_0 X0 (k9_subset_1 (u1_struct_0 \\ X0) (k1_waybel_3 X0 X2) X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 \\ X0)))\Rightarrow((v2_waybel_8 X0)\Leftrightarrow((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0))\Rightarrow((\neg v1_xboole_0 (k2_waybel_8 X0 X1))\wedge(v1_waybel_0 (k2_waybel_8 \\ X0 X1) X0)))\wedge((v24_waybel_0 X0)\wedge(v1_waybel_8 X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(l1_orders_2 \\ X0)))\Rightarrow((v1_waybel_8 X0)\Leftrightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ X0))\Rightarrow(X1 = k1_yellow_0 X0 (k2_waybel_8 X0 X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0))\Rightarrow(k8_subset_1 X0 X1 X2 = k8_subset_1 X0 X2 X1) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v3_orders_2 \\ X0)\wedge(v3_waybel_3 X0)))\Rightarrow((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge \\ ((v24_waybel_0 X0)\wedge(v2_waybel_3 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v1_lattice3 X0)\Rightarrow(\neg v2_struct_0 X0)) \quad (13)$$

Theorem 1

$$\forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_yellow_0 X0)\wedge((v1_lattice3 X0)\wedge((v3_waybel_3 X0)\wedge(l1_orders_2 X0)))))))\Rightarrow((m1_waybel23 (u1_struct_0 (k1_waybel_8 X0)) X0)\Rightarrow(v2_waybel_8 X0))$$