

t14_waybel19 (TM-
cyD1YN8bTdY1WiyQEeqVxKJF4XBiNwNBA9)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_yellow_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_yellow_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_yellow_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k2_yellow_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X1)) \Rightarrow (k6_yellow_3 X0 X1 (k6_waybel_0 X0 X2) (k6_waybel_0 X1 X3) = \\ & k6_waybel_0 (k3_yellow_3 X0 X1) (k7_yellow_3 X0 X1 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.k4_xboole_0 (k2_zfmisc_1 \\ & X0 X1) (k2_zfmisc_1 X2 X3) = k2_xboole_0 (k2_zfmisc_1 (k4_xboole_0 \\ & X0 X2) X1) (k2_zfmisc_1 X0 (k4_xboole_0 X1 X3)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((l1_orders_2 X0) \wedge \\ & ((l1_orders_2 X1) \wedge ((m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1)))))) \Rightarrow (k6_yellow_3 \\ & X0 X1 X2 X3 = k2_zfmisc_1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((l1_orders_2 X0)\wedge \\ & ((l1_orders_2 X1)\wedge((m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1))))))\Rightarrow(m1_subset_1 \\ & (k6_yellow_3 X0 X1 X2 X3) (k1_zfmisc_1 (u1_struct_0 (k3_yellow_3 \\ & X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k6_waybel_0 \\ & X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_orders_2 X0)\wedge(l1_orders_2 X1))\Rightarrow(\\ & (v1_orders_2 (k3_yellow_3 X0 X1))\wedge(l1_orders_2 (k3_yellow_3 \\ & X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 \\ & X0 X1 = k4_xboole_0 X0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(l1_orders_2 X1)\Rightarrow(\forall X2. \\ & ((v1_orders_2 X2)\wedge(l1_orders_2 X2))\Rightarrow((X2 = k3_yellow_3 X0 X1)\Leftrightarrow \\ & ((u1_struct_0 X2 = k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))\wedge \\ & (u1_orders_2 X2 = k2_yellow_3 (u1_struct_0 X0) (u1_struct_0 X0) \\ & (u1_struct_0 X1) (u1_struct_0 X1) (u1_orders_2 X0) (u1_orders_2 \\ & X1)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ & ((\neg v2_struct_0 X1)\wedge(l1_orders_2 X1))\Rightarrow(\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X1))\Rightarrow(k3_subset_1 (u1_struct_0 (k3_yellow_3 X0 X1)) (k6_waybel_0 \\ & (k3_yellow_3 X0 X1) (k7_yellow_3 X0 X1 X2 X3)) = k2_xboole_0 (k2_zfmisc_1 \\ & (k3_subset_1 (u1_struct_0 X0) (k6_waybel_0 X0 X2)) (u1_struct_0 \\ & X1)) (k2_zfmisc_1 (u1_struct_0 X0) (k3_subset_1 (u1_struct_0 \\ & X1) (k6_waybel_0 X1 X3)))))) \end{aligned}$$