

t17_waybel10 (TM- LzJg6HNGRdqVEPJEJmVusgMY5YQcQutyZ)

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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 $k4_waybel10 : \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_waybel10 : \iota \Rightarrow \iota$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow & (\forall X1.((v4_yellow_0 X1 X0) \wedge \\ (m1_yellow_0 X1 X0)) \Rightarrow & (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ X0)) \Rightarrow & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. \\ (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow & (\forall X5.(m1_subset_1 X5 \\ (u1_struct_0 X1)) \Rightarrow & (((X4 = X2) \wedge ((X5 = X3) \wedge ((r1_orders_2 X0 X2 X3) \wedge \\ (X4 \in u1_struct_0 X1)))) \Rightarrow & (r1_orders_2 X1 X4 X5))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow & (\forall X1.(m1_yellow_0 X1 X0) \Rightarrow \\ (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow & (\forall X3.(m1_subset_1 \\ X3 (u1_struct_0 X0)) \Rightarrow & (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\ X1)) \Rightarrow & (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X4 = X2) \wedge \\ ((X5 = X3) \wedge (r1_orders_2 X1 X4 X5)) \Rightarrow & (r1_orders_2 X0 X2 X3))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow & (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (m1_yellow_0 X1 X0)) \Rightarrow & (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X1)) \Rightarrow & (m1_subset_1 X2 (u1_struct_0 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(l1_orders_2 X1)\Rightarrow(\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 (k3_waybel10 X0)))\Rightarrow(\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 (k3_waybel10 X0)))\Rightarrow((X3 = X1)\Rightarrow((\\ r1_orders_2 (k3_waybel10 X0) X2 X3)\Leftrightarrow(m1_yellow_0 X2 X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(v3_orders_2 \\ X0)\wedge(l1_orders_2 X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(\\ m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((r3_orders_2 X0 X1 X2)\Leftrightarrow(r1_orders_2 \\ X0 X1 X2)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(v3_orders_2 X0)\wedge(l1_orders_2 \\ X0))\Rightarrow(\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))\wedge((\neg v1_xboole_0 X1)\wedge(v1_finset_1 X1)\wedge(v1_waybel_0 X1 \\ X0)\wedge(v2_waybel_0 X1 X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0)\Rightarrow((\neg v2_struct_0 (k3_waybel10 X0))\wedge \\ ((v1_orders_2 (k3_waybel10 X0))\wedge(v3_orders_2 (k3_waybel10 \\ X0))\wedge(v4_orders_2 (k3_waybel10 X0))\wedge(v5_orders_2 (k3_waybel10 \\ X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\exists X1.m1_subset_1 X1 X0 \quad (11)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_yellow_0 X1 X0)\Rightarrow (l1_orders_2 X1)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow((\neg v2_struct_0 \\ (k4_waybel10 X0))\wedge(v1_orders_2 (k4_waybel10 X0))\wedge(v4_yellow_0 \\ (k4_waybel10 X0) (k3_waybel10 X0))\wedge(m1_yellow_0 (k4_waybel10 \\ X0) (k3_waybel10 X0)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((\neg v2_struct_0 (k3_waybel10 X0)) \wedge ((v1_orders_2 (k3_waybel10 X0)) \wedge (l1_orders_2 (k3_waybel10 X0)))) \quad (14)$$

Assume the following.

$$\forall X0.((v3_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_0 X1 X0) \Rightarrow ((v4_yellow_0 X1 X0) \Rightarrow ((v3_orders_2 X1) \wedge (v4_yellow_0 X1 X0)))) \quad (15)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (l1_orders_2 X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k4_waybel10 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k4_waybel10 X0))) \Rightarrow ((X3 = X1) \Rightarrow ((r3_orders_2 (k4_waybel10 X0) X2 X3) \Leftrightarrow (m1_yellow_0 X2 X1)))))))$$