

t43_orders_2 (TMM-
bao7mTQjiZDvhhbnVn8PPtyEXp8XbBGXd)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. 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 $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_orders_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k4_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&\neg(\exists X1. (X1 \neq k1_xboole_0) \wedge (X1 \in X0)) \wedge (k3_tarski \\ &X0 = k1_xboole_0)) \wedge (\neg(k3_tarski X0 \neq k1_xboole_0) \wedge (\forall X1. \\ &\neg(X1 \neq k1_xboole_0) \wedge (X1 \in X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (\neg(\neg r1_xboole_0 X0 X0) \wedge (X0 = k1_xboole_0)) \wedge (\neg(X0 \neq k1_xboole_0) \wedge (r1_xboole_0 X0 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (&\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ &X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (m1_orders_1 \\ &X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m2_orders_2 \\ &X2 X0 X1) \Rightarrow (\forall X3. (m2_orders_2 X3 X0 X1) \Rightarrow (\neg r1_xboole_0 X2 X3)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (&(\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ &((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))) \wedge \\ &m1_orders_1 X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\exists X2. \\ &m2_orders_2 X2 X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (&\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ &X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1. (m1_orders_1 \\ &X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (X2 = k4_orders_2 \\ &X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow (m2_orders_2 X3 X0 X1)))) \end{aligned} \quad (5)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge(l1_orders_2 X0)))))\Rightarrow(\forall X1.(m1_orders_1 X1 (k1_orders_1 (u1_struct_0 X0))\Rightarrow(k3_tarski (k4_orders_2 X0 X1)\neq k1_xboole_0))$$