

t42_orders_2 (TMJXTH- sYK18WzSV1s2TmTaTTUvJRuUv7Nm8)

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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 $m2_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6_orders_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. (\neg(\neg r1_xboole_0 X0 X0) \wedge (X0 = k1_xboole_0)) \wedge (\neg(X0 \neq k1_xboole_0) \wedge (r1_xboole_0 X0 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1. (m1_orders_1 \\ & X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. (m2_orders_2 \\ & X2 X0 X1) \Rightarrow (\forall X3. (m2_orders_2 X3 X0 X1) \Rightarrow ((X2 \neq X3) \Rightarrow ((m1_orders_2 \\ & X2 X0 X3) \Leftrightarrow (\neg m1_orders_2 X3 X0 X2)))))) \end{aligned} \quad (2)$$

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.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((\neg(X1 \neq k1_xboole_0) \wedge (m1_orders_2 \\ & X1 X0 X1)) \wedge (\neg(\neg m1_orders_2 X1 X0 X1) \wedge (X1 = k1_xboole_0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_orders_2 \\ X2 X0 X1) \Rightarrow (r1_tarSKI X2 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\neg r2_xboole_0 X0 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \wedge (\\ m1_orders_1 X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ (m2_orders_2 X2 X0 X1) \Rightarrow ((v6_orders_2 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarSKI X0 X1) \wedge (X0 \neq X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarSKI X0 X1) \wedge (r1_tarSKI X1 X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_orders_1 \\ X1 (k1_orders_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m2_orders_2 \\ X2 X0 X1) \Rightarrow (\forall X3.(m2_orders_2 X3 X0 X1) \Rightarrow ((r2_xboole_0 X2 X3) \Leftrightarrow \\ (m1_orders_2 X2 X0 X3)))))) \end{aligned}$$