

t7_latsum_1 (TM-
RGe18YeGt4RGAx7HGJKhrFMv8wAMdWNpx)

October 27, 2020

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 $k1_latsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k4_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 (k4_xboole_0 X1 X0) = k2_xboole_0 X0 X1 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge (l1_orders_2 X1)) \Rightarrow ((\neg v2_struct_0 (k1_latsum_1 X0 X1)) \wedge (v1_orders_2 (k1_latsum_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1_orders_2 X0)\wedge(l1_orders_2 X1))\Rightarrow((v1_orders_2 (k1_latsum_1 X0 X1))\wedge(l1_orders_2 (k1_latsum_1 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(l1_orders_2 X1)\Rightarrow(\forall X2. \\ &((v1_orders_2 X2)\wedge(l1_orders_2 X2))\Rightarrow((X2 = k1_latsum_1 X0 X1)\Leftrightarrow \\ &((u1_struct_0 X2 = k2_xboole_0 (u1_struct_0 X0) (u1_struct_0 X1))\wedge \\ &(u1_orders_2 X2 = k2_xboole_0 (k2_xboole_0 (u1_orders_2 X0) (u1_orders_2 \\ &X1)) (k4_reset_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 \\ &X1) (u1_struct_0 X1) (u1_orders_2 X0) (u1_orders_2 X1)))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ &((\neg v2_struct_0 X1)\wedge(l1_orders_2 X1))\Rightarrow(\forall X2.(m1_subset_1 \\ &X2 (u1_struct_0 (k1_latsum_1 X0 X1)))\Rightarrow((X2 \in u1_struct_0 X0)\vee(\\ &X2 \in k6_subset_1 (u1_struct_0 X1) (u1_struct_0 X0)))) \end{aligned}$$