

t22_latsum_1 (TMVGjHG-
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Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k1_latsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski\ X0\ X1 \in k2_zfmisc_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

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.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ X2))) \Rightarrow (m1_subset_1\ X0\ X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2\ X0) \Rightarrow (\forall X1.(l1_orders_2\ X1) \Rightarrow (\forall X2. \\ \forall X3.(((v13_waybel_0\ (k3_xboole_0\ (u1_struct_0\ X0)\ (u1_struct_0 \\ X1))\ X0) \wedge (m1_subset_1\ (k3_xboole_0\ (u1_struct_0\ X0)\ (u1_struct_0 \\ X1))\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \wedge ((k4_tarski\ X2\ X3 \in u1_orders_2 \\ (k1_latsum_1\ X0\ X1)) \wedge (X2 \in u1_struct_0\ X1))) \Rightarrow (X3 \in u1_struct_0 \\ X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (6)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (m1_subset_1 (u1_orders_2 X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((l1_orders_2 X0) \wedge (l1_orders_2 X1)) \Rightarrow (v1_orders_2 (k1_latsum_1 X0 X1) \wedge (l1_orders_2 (k1_latsum_1 X0 X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2. \\ ((v1_orders_2 X2) \wedge (l1_orders_2 X2)) \Rightarrow ((X2 = k1_latsum_1 X0 X1) \Leftrightarrow \\ ((u1_struct_0 X2 = k2_xboole_0 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge \\ (u1_orders_2 X2 = k2_xboole_0 (k2_xboole_0 (u1_orders_2 X0) (u1_orders_2 \\ X1)) (k4_reset_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 \\ X1) (u1_struct_0 X1) (u1_orders_2 X0) (u1_orders_2 X1))))))) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(l1_orders_2 X2) \Rightarrow (\forall X3. \\ (l1_orders_2 X3) \Rightarrow (\neg(k4_tarski X0 X1 \in u1_orders_2 (k1_latsum_1 \\ X2 X3)) \wedge (((v13_waybel_0 (k3_xboole_0 (u1_struct_0 X2) (u1_struct_0 \\ X3)) X2) \wedge (m1_subset_1 (k3_xboole_0 (u1_struct_0 X2) (u1_struct_0 \\ X3)) (k1_zfmisc_1 (u1_struct_0 X2)))) \wedge ((\neg(X0 \in u1_struct_0 X2) \wedge \\ (X1 \in u1_struct_0 X2)) \wedge ((\neg(X0 \in u1_struct_0 X3) \wedge (X1 \in u1_struct_0 \\ X3)) \wedge (\neg(X0 \in k6_subset_1 (u1_struct_0 X2) (u1_struct_0 X3)) \wedge \\ (X1 \in k6_subset_1 (u1_struct_0 X3) (u1_struct_0 X2)))))))))) \end{aligned}$$