

t10_latsum_1
(TMcVV4SWVefaArvUvrCsB6g8orSVt8LcB4B)

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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 $v1_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_latsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k4_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((l1_orders_2 X0) \wedge (l1_orders_2 X1)) \Rightarrow ((v1_orders_2 (k1_latsum_1 X0 X1)) \wedge (l1_orders_2 (k1_latsum_1 X0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_orders_2 X0) \Rightarrow (\forall X1. (l1_orders_2 X1) \Rightarrow (\forall X2. \\ & ((v1_orders_2 X2) \wedge (l1_orders_2 X2)) \Rightarrow ((X2 = k1_latsum_1 X0 X1) \Leftrightarrow \\ & ((u1_struct_0 X2 = k2_xboole_0 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge \\ & (u1_orders_2 X2 = k2_xboole_0 (k2_xboole_0 (u1_orders_2 X0) (u1_orders_2 \\ & X1)) (k4_relset_1 (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 \\ & X1) (u1_struct_0 X1) (u1_orders_2 X0) (u1_orders_2 X1)))))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 \\ & X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow \\ & (\forall X2. (X2 \in u1_struct_0 X0) \Rightarrow (m1_subset_1 X2 (u1_struct_0 \\ & (k1_latsum_1 X0 X1)))) \end{aligned}$$