

t9_latsum_1 (TMVgaUPDsenErXL- LVqV4ykpWcUgRzsZa3CR)

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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 $r1_latsum_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2. \\ & \forall X3.((k4_tarski X2 X3 \in u1_orders_2 X0) \Rightarrow (k4_tarski X2 X3 \in \\ & u1_orders_2 (k1_latsum_1 X0 X1))) \wedge ((k4_tarski X2 X3 \in u1_orders_2 \\ & X1) \Rightarrow (k4_tarski X2 X3 \in u1_orders_2 (k1_latsum_1 X0 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(l1_orders_2 X1) \Rightarrow (\forall X2. \\ & \forall X3.((k4_tarski X2 X3 \in u1_orders_2 (k1_latsum_1 X0 X1)) \wedge \\ & ((X2 \in u1_struct_0 X1) \wedge ((X3 \in u1_struct_0 X1) \wedge ((r1_latsum_1 X0 \\ & X1) \wedge (v4_orders_2 X1)))))) \Rightarrow (k4_tarski X2 X3 \in u1_orders_2 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

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.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((l1_orders_2 X0)\wedge(l1_orders_2 X1))\Rightarrow((v1_orders_2 (k1_latsum_1 X0 X1))\wedge(l1_orders_2 (k1_latsum_1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_orders_2 X0 X1 X2)\Leftrightarrow(k4_tarski X1 X2 \in u1_orders_2 X0)))) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. ((\neg v2_struct_0 X1)\wedge(l1_orders_2 X1))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 (k1_latsum_1 X0 X1)))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 (k1_latsum_1 X0 X1)))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 X1))\Rightarrow(\forall X5.(m1_subset_1 X5 (u1_struct_0 X1))\Rightarrow(((X2 = X4)\wedge((X3 = X5)\wedge((r1_latsum_1 X0 X1)\wedge(v4_orders_2 X1))))\Rightarrow((r1_orders_2 (k1_latsum_1 X0 X1) X2 X3)\Leftrightarrow(r1_orders_2 X1 X4 X5))))))))))$$