

t26_openlatt

(TMUWxtGi3chzP9bFTxyKenBUiiDxTwbop6N)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_openlatt : \iota \Rightarrow \iota$ be given. Let $r3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_lattices : \iota \Rightarrow o$ be given. Let $v8_lattices : \iota \Rightarrow o$ be given. Let $v9_lattices : \iota \Rightarrow o$ be given. Let $r1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_openlatt : \iota \Rightarrow \iota$ be given. Let $k11_openlatt : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $g3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $k14_openlatt : \iota \Rightarrow \iota$ be given. Let $k13_openlatt : \iota \Rightarrow \iota$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $v4_lattices : \iota \Rightarrow o$ be given. Let $v5_lattices : \iota \Rightarrow o$ be given. Let $v7_lattices : \iota \Rightarrow o$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X1 \Rightarrow (k2_xboole_0 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k2_xboole_0 X0 X1 = X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v6_lattices \\ & X0) \wedge ((v8_lattices X0) \wedge ((v9_lattices X0) \wedge (l3_lattices X0)))))) \wedge \\ & ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & X0))) \Rightarrow ((r3_lattices X0 X1 X2) \Leftrightarrow (r1_lattices X0 X1 X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v11_lattices X0) \wedge (l3_lattices X0)))))) \wedge ((m1_subset_1 X1 \\ & (k9_openlatt X0)) \wedge (m1_subset_1 X2 (k9_openlatt X0))) \Rightarrow (k11_openlatt \\ & X0 X1 X2 = k2_xboole_0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_funct_1 X1)\wedge((v1_funct_2 \\ & X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 \\ & (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow(\forall X3.\forall X4.\forall X5. \\ & (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5)\Rightarrow((X0 = X3)\wedge((X1 = X4)\wedge \\ & (X2 = X5)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l3_lattices X0)\Rightarrow((l1_lattices X0)\wedge(l2_lattices X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge((v11_lattices \\ & X0)\wedge(l3_lattices X0))))\Rightarrow((\neg v2_struct_0 (k15_openlatt X0))\wedge \\ & ((v10_lattices (k15_openlatt X0))\wedge(l3_lattices (k15_openlatt \\ & X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge((v11_lattices \\ & X0)\wedge(l3_lattices X0))))\Rightarrow((v1_funct_1 (k14_openlatt X0))\wedge((\\ & v1_funct_2 (k14_openlatt X0) (k2_zfmisc_1 (k9_openlatt X0) (k9_openlatt \\ & X0)) (k9_openlatt X0))\wedge(m1_subset_1 (k14_openlatt X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 (k9_openlatt X0) (k9_openlatt X0)) \\ & (k9_openlatt X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge((v11_lattices \\ & X0)\wedge(l3_lattices X0))))\Rightarrow((v1_funct_1 (k13_openlatt X0))\wedge((\\ & v1_funct_2 (k13_openlatt X0) (k2_zfmisc_1 (k9_openlatt X0) (k9_openlatt \\ & X0)) (k9_openlatt X0))\wedge(m1_subset_1 (k13_openlatt X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 (k9_openlatt X0) (k9_openlatt X0)) \\ & (k9_openlatt X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_funct_1 X1)\wedge((v1_funct_2 \\ & X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 \\ & (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow((v3_lattices (g3_lattices X0 X1 \\ & X2))\wedge(l3_lattices (g3_lattices X0 X1 X2))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\
& X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\
& X1 (k2_zfmisc_1 (k9_openlatt X0) (k9_openlatt X0)) (k9_openlatt \\
& X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& (k9_openlatt X0) (k9_openlatt X0)) (k9_openlatt X0)))))) \Rightarrow ((X1 = \\
& k13_openlatt X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (k9_openlatt X0)) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 (k9_openlatt X0)) \Rightarrow (k5_binop_1 (k9_openlatt \\
& X0) X1 X2 X3 = k11_openlatt X0 X2 X3))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow ((r1_lattices X0 X1 X2) \Leftrightarrow (k1_lattices X0 X1 X2 = \\
& X2))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l2_lattices X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (k1_lattices X0 X1 X2 = k5_binop_1 (u1_struct_0 \\
& X0) (u2_lattices X0) X1 X2)))
\end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\
& X0) \wedge (l3_lattices X0)))) \Rightarrow (k15_openlatt X0 = g3_lattices (k9_openlatt \\
& X0) (k13_openlatt X0) (k14_openlatt X0))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v10_lattices \\
& X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v4_lattices X0) \wedge ((v5_lattices X0) \wedge \\
& ((v6_lattices X0) \wedge ((v7_lattices X0) \wedge ((v8_lattices X0) \wedge (v9_lattices \\
& X0))))))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l3_lattices X0) \Rightarrow ((v3_lattices X0) \Rightarrow (X0 = g3_lattices \\
& (u1_struct_0 X0) (u2_lattices X0) (u1_lattices X0)))
\end{aligned} \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\
& X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& (k15_openlatt X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& (k15_openlatt X0)) \Rightarrow ((r3_lattices (k15_openlatt X0) X1 X2) \Leftrightarrow (\\
& r1_tarski X1 X2))))))
\end{aligned}$$