

t6_openlatt

(TMFiH26ixVqCJQ9z0jAyYBFhyKdBsDEt5CT)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_openlatt : \iota \Rightarrow \iota$ 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 $l3_lattices : \iota \Rightarrow o$ be given. Let $r1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_openlatt : \iota \Rightarrow \iota$ be given. Let $k2_openlatt : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v10_lattices : \iota \Rightarrow o$ be given. Let $k5_openlatt : \iota \Rightarrow \iota$ be given. Let $k4_openlatt : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_pre_topc \\ & X0) \wedge (l1_pre_topc X0))) \wedge ((m1_subset_1 X1 (k1_openlatt X0)) \wedge \\ & m1_subset_1 X2 (k1_openlatt X0))) \Rightarrow (k2_openlatt X0 X1 X2 = k2_xboole_0 \\ & X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge((m1_subset_1 X1 (k1_openlatt X0))\wedge(m1_subset_1 X2 (k1_openlatt X0))))\Rightarrow(k2_openlatt X0 X1 X1 = X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow(\forall X3.\forall X4.\forall X5.(g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5)\Rightarrow((X0 = X3)\wedge((X1 = X4)\wedge(X2 = X5)))) \quad (6)$$

Assume the following.

$$\forall X0.(l3_lattices X0)\Rightarrow((l1_lattices X0)\wedge(l2_lattices X0)) \quad (7)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow((\neg v2_struct_0 (k6_openlatt X0))\wedge((v10_lattices (k6_openlatt X0))\wedge(l3_lattices (k6_openlatt X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(((v1_funct_1 (k5_openlatt X0))\wedge((v1_funct_2 (k5_openlatt X0) (k2_zfmisc_1 (k1_openlatt X0) (k1_openlatt X0)) (k1_openlatt X0))\wedge(m1_subset_1 (k5_openlatt X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_openlatt X0) (k1_openlatt X0)) (k1_openlatt X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(((v1_funct_1 (k4_openlatt X0))\wedge((v1_funct_2 (k4_openlatt X0) (k2_zfmisc_1 (k1_openlatt X0) (k1_openlatt X0)) (k1_openlatt X0))\wedge(m1_subset_1 (k4_openlatt X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_openlatt X0) (k1_openlatt X0)) (k1_openlatt X0)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\wedge((m1_subset_1 X1 (k1_openlatt X0))\wedge(m1_subset_1 X2 (k1_openlatt X0))))\Rightarrow(m2_subset_1 (k2_openlatt X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0) (k1_openlatt X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_funct_1 X1)\wedge((v1_funct_2 \\ & X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 \\ & (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow((v3_lattices (g3_lattices X0 X1 \\ & X2))\wedge(l3_lattices (g3_lattices X0 X1 X2))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ & X0)))\Rightarrow(k6_openlatt X0 = g3_lattices (k1_openlatt X0) (k4_openlatt \\ & X0) (k5_openlatt X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l2_lattices X0))\Rightarrow(\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0))\Rightarrow((r1_lattices X0 X1 X2)\Leftrightarrow(k1_lattices X0 X1 X2 = \\ & X2)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc \\ & X0)))\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 \\ & (k1_openlatt X0) (k1_openlatt X0)) (k1_openlatt X0))\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k1_openlatt X0) (k1_openlatt \\ & X0)) (k1_openlatt X0))))))\Rightarrow((X1 = k4_openlatt X0)\Leftrightarrow(\forall X2. \\ & (m2_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)) (k1_openlatt X0))\Rightarrow \\ & (\forall X3.(m2_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)) (k1_openlatt \\ & X0))\Rightarrow(k5_binop_1 (k1_openlatt X0) X1 X2 X3 = k2_openlatt X0 X2 X3)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l2_lattices X0))\Rightarrow(\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0))\Rightarrow(k1_lattices X0 X1 X2 = k5_binop_1 (u1_struct_0 \\ & X0) (u2_lattices X0) X1 X2))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_lattices X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge(v10_lattices \\ & X0))\Rightarrow((\neg v2_struct_0 X0)\wedge((v4_lattices X0)\wedge((v5_lattices X0)\wedge \\ & ((v6_lattices X0)\wedge((v7_lattices X0)\wedge((v8_lattices X0)\wedge(v9_lattices \\ & X0)))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l3_lattices X0)\Rightarrow((v3_lattices X0)\Rightarrow(X0 = g3_lattices \\ & (u1_struct_0 X0) (u2_lattices X0) (u1_lattices X0))) \end{aligned} \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k6_openlatt \\ & X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k6_openlatt \\ & X0)))) \Rightarrow ((r3_lattices (k6_openlatt X0) X1 X2) \Leftrightarrow (r1_tarski X1 X2)))) \end{aligned}$$