

t36_openlatt

(TMEs76aBd89gUBaPLrQQQu3BhtyM35yTCh8H)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v1_lattice2 : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $r3_lattice4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_openlatt : \iota \Rightarrow \iota$ be given. Let $k17_openlatt : \iota \Rightarrow \iota$ be given. Let $k18_openlatt : \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v13_lattices : \iota \Rightarrow o$ be given. Let $k5_lattices : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_openlatt : \iota \Rightarrow \iota$ be given. Let $k16_openlatt : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_openlatt : \iota \Rightarrow \iota$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Let $v1_zfmisc_1 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_lattice4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $v3_filter_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow ((v13_lattices (k6_openlatt X0)) \wedge (k5_lattices (k6_openlatt X0) = k1_xboole_0)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v1_lattice2 X0) \wedge (l3_lattices X0))))) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 (k15_openlatt X0)) (k16_openlatt X0) (k5_lattices X0) = k1_xboole_0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v1_lattice2 X0) \wedge (l3_lattices X0)))))) \Rightarrow (k18_openlatt X0 = \\ & k8_openlatt X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v11_lattices \\ & X0) \wedge (l3_lattices X0)))) \Rightarrow (k16_openlatt X0 = k8_openlatt X0) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\exists X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & X0)) \wedge ((\neg v1_xboole_0 X1) \wedge (v1_zfmisc_1 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\exists X0. \neg v1_xboole_0 X0 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \exists X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (v1_xboole_0 \\ & X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v7_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_zfmisc_1 \\ & (u1_struct_0 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v1_lattice2 X0) \wedge (l3_lattices X0)))))) \Rightarrow ((\neg v2_struct_0 \\ & (k17_openlatt X0)) \wedge ((v1_pre_topc (k17_openlatt X0)) \wedge (v2_pre_topc \\ & (k17_openlatt X0)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge \\ & (l3_lattices X0))) \wedge ((\neg v2_struct_0 X1) \wedge ((v10_lattices X1) \wedge \\ & (l3_lattices X1)))) \Rightarrow (\forall X2. (m1_lattice4 X2 X0 X1) \Rightarrow ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0)\Rightarrow((l1_lattices\ X0)\wedge(l2_lattices\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_lattices\ X0)\Rightarrow(l1_struct_0\ X0) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v2_pre_topc\ X0)\wedge(l1_pre_topc\ X0)))\Rightarrow((\neg v2_struct_0\ (k6_openlatt\ X0))\wedge((v10_lattices\ (k6_openlatt\ X0))\wedge(l3_lattices\ (k6_openlatt\ X0)))) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_lattices\ X0))\Rightarrow(m1_subset_1\ (k5_lattices\ X0)\ (u1_struct_0\ X0)) \quad (16)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((\neg v7_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v1_lattice2\ X0)\wedge(l3_lattices\ X0)))))\Rightarrow(m1_lattice4\ (k18_openlatt\ X0)\ X0\ (k6_openlatt\ (k17_openlatt\ X0))) \quad (17)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((\neg v7_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v1_lattice2\ X0)\wedge(l3_lattices\ X0)))))\Rightarrow((v1_pre_topc\ (k17_openlatt\ X0))\wedge(l1_pre_topc\ (k17_openlatt\ X0))) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v11_lattices\ X0)\wedge(l3_lattices\ X0))))\Rightarrow(m1_lattice4\ (k16_openlatt\ X0)\ X0\ (k15_openlatt\ X0)) \quad (19)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge((v11_lattices\ X0)\wedge(l3_lattices\ X0))))\Rightarrow((\neg v2_struct_0\ (k15_openlatt\ X0))\wedge((v10_lattices\ (k15_openlatt\ X0))\wedge(l3_lattices\ (k15_openlatt\ X0)))) \quad (20)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0\ X0)\wedge((v10_lattices\ X0)\wedge(l3_lattices\ X0)))\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge((v10_lattices\ X1)\wedge(l3_lattices\ X1))))\Rightarrow(\forall X2.(m1_lattice4\ X2\ X0\ X1)\Rightarrow((r3_lattice4\ X0\ X1\ X2)\Leftrightarrow (k3_funct_2\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)\ X2\ (k5_lattices\ X0) = k5_lattices\ X1)))) \quad (21)$$

Assume the following.

$$\forall X0.(v1_zfmisc_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_zfmisc_1 X1)) \quad (22)$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (v3_filter_0 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (v11_lattices X0)))) \quad (23)$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (v1_lattice2 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v13_lattices X0) \wedge (v3_filter_0 X0))))) \quad (24)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v1_lattice2 X0) \wedge (l3_lattices X0))))) \Rightarrow (r3_lattice4 X0 (k6_openlatt (k17_openlatt X0)) (k18_openlatt X0))$$