

t34_lopclset
(TMXwVZb3xsax8HB6Vbdo8zA86spcWF7LxSg)

October 27, 2020

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 $v17_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_lopclset : \iota \Rightarrow \iota$ be given. Let $k13_lopclset : \iota \Rightarrow \iota$ be given. Let $k10_lopclset : \iota \Rightarrow \iota$ be given. Let $k1_lopclset : \iota \Rightarrow \iota$ be given. Let $k11_lopclset : \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k9_lopclset : \iota \Rightarrow \iota$ be given. Let $k8_lopclset : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $m1_lattice4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_lopclset : \iota \Rightarrow \iota$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $k5_lopclset : \iota \Rightarrow \iota$ be given. Let $k4_lopclset : \iota \Rightarrow \iota$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $k6_lopclset : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0))))) \Rightarrow (k10_lopclset X0 = k1_lopclset (k11_lopclset X0)) \quad (1)$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0))))) \Rightarrow (k9_lopclset X0 = k8_lopclset X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (k13_lopclset X0 = k8_lopclset X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. \\ & (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((\neg v2_struct_0 (k11_lopclset X0)) \wedge ((v1_pre_topc (k11_lopclset X0)) \wedge (v2_pre_topc (k11_lopclset X0)))) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((\neg v2_struct_0 X1) \wedge ((v10_lattices X1) \wedge (l3_lattices X1)))) \Rightarrow (\forall X2. (m1_lattice4 X2 X0 X1) \Rightarrow ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((v1_funct_1 (k9_lopclset X0)) \wedge ((v1_funct_2 (k9_lopclset X0) (u1_struct_0 X0) (k9_setfam_1 (k7_lopclset X0))) \wedge (m1_subset_1 (k9_lopclset X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k9_setfam_1 (k7_lopclset X0))))))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((v1_relat_1 (k8_lopclset X0)) \wedge (v1_funct_1 (k8_lopclset X0))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow ((v1_funct_1 (k5_lopclset X0)) \wedge ((v1_funct_2 (k5_lopclset \\ X0) (k2_zfmisc_1 (k1_lopclset X0) (k1_lopclset X0)) (k1_lopclset \\ X0)) \wedge (m1_subset_1 (k5_lopclset X0) (k1_zfmisc_1 (k2_zfmisc_1 \\ (k2_zfmisc_1 (k1_lopclset X0) (k1_lopclset X0)) (k1_lopclset \\ X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow ((v1_funct_1 (k4_lopclset X0)) \wedge ((v1_funct_2 (k4_lopclset \\ X0) (k2_zfmisc_1 (k1_lopclset X0) (k1_lopclset X0)) (k1_lopclset \\ X0)) \wedge (m1_subset_1 (k4_lopclset X0) (k1_zfmisc_1 (k2_zfmisc_1 \\ (k2_zfmisc_1 (k1_lopclset X0) (k1_lopclset X0)) (k1_lopclset \\ X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (m1_lattice4 (\\ k13_lopclset X0) X0 (k12_lopclset X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((\neg v2_struct_0 \\ (k12_lopclset X0)) \wedge ((v10_lattices (k12_lopclset X0)) \wedge (l3_lattices \\ (k12_lopclset X0)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((v1_pre_topc \\ (k11_lopclset X0)) \wedge ((v2_pre_topc (k11_lopclset X0)) \wedge (l1_pre_topc \\ (k11_lopclset X0)))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\ X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k2_zfmisc_1 X0 X0) X0) X0)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\ (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k2_zfmisc_1 X0 X0) X0) X0)))))) \Rightarrow ((v3_lattices (g3_lattices X0 X1 \\ X2)) \wedge (l3_lattices (g3_lattices X0 X1 X2))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (k12_lopclset \\ X0 = k6_lopclset (k11_lopclset X0)) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0))))) \Rightarrow (k10_lopclset X0 = k2_relset_1 (k9_setfam_1 (k7_lopclset X0) (k9_lopclset X0))) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (k6_lopclset X0 = g3_lattices (k1_lopclset X0) (k4_lopclset X0) (k5_lopclset X0)) \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (20)$$

Assume the following.

$$\forall X0. (l3_lattices X0) \Rightarrow ((v3_lattices X0) \Rightarrow (X0 = g3_lattices (u1_struct_0 X0) (u2_lattices X0) (u1_lattices X0))) \quad (21)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0))))) \Rightarrow (k2_relset_1 (u1_struct_0 (k12_lopclset X0) (k13_lopclset X0) = u1_struct_0 (k12_lopclset X0))$$