

t24_lopclset

(TMV1aYeAWidvughnt3o4ARBXv3PXH944Yy7)

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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 $v17_lattices : \iota \Rightarrow o$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v19_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_filter_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k7_lopclset : \iota \Rightarrow \iota$ be given. Let $k9_lopclset : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_lopclset : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (\forall X1. (m1_subset_1 \\ X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v19_lattices \\ X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Rightarrow ((X2 \in k1_funct_1 (k8_lopclset X0) X1) \Leftrightarrow ((v1_filter_0 \\ X2 X0) \wedge (X1 \in X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \tag{2}$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((v1_funct_1 (k9_lopclset X0)) \wedge ((v1_funct_2 (k9_lopclset X0) (u1_struct_0 X0) (k9_setfam_1 (k7_lopclset X0))) \wedge (m1_subset_1 (k9_lopclset X0) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (k9_setfam_1 (k7_lopclset X0))))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow ((v1_relat_1 (k8_lopclset X0)) \wedge (v1_funct_1 (k8_lopclset X0))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v19_lattices X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\neg (v1_filter_0 X2 X0) \wedge ((\neg X2 \in k3_funct_2 (u1_struct_0 X0) (k9_setfam_1 (k7_lopclset X0)) (k9_lopclset X0) X1) \wedge (X1 \in X2))))))$$