

t47_filter_2

(TMXGzu1XuGZPc6qT8zHAVCgkFGuDCCuENJ3)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v18_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v19_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1. \forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X3. ((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\neg(X1 \in k8_filter_2 X0 X2 X3) \wedge (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. (m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow (\neg(X1 = k3_lattices X0 X4 X5) \wedge ((X4 \in X2) \wedge (X5 \in X3)))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. ((\neg v1_xboole_0 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X4. ((\neg v1_xboole_0 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (((X1 \in X3) \wedge (X2 \in X4)) \Rightarrow ((k3_lattices X0 X1 X2 \in k8_filter_2 X0 X3 X4) \wedge (k3_lattices X0 X2 X1 \in k8_filter_2 X0 X3 X4)))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((\forall X3. (m1_subset_1 X3 X0) \Rightarrow ((X3 \in X1) \Leftrightarrow (X3 \in X2))) \Rightarrow (X1 = X2))) \quad (4) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0))))\Rightarrow((r1_filter_2 X0 X1 X2)\Leftrightarrow(X1 = X2)) \quad (5)$$

Assume the following.

$$\forall X0.\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(v1_xboole_0 X1) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices X0)))\Rightarrow(\exists X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\wedge((\neg v1_xboole_0 X1)\wedge((v18_lattices X1 X0)\wedge(v19_lattices X1 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices X0)))\wedge(((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\wedge((\neg v1_xboole_0 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow(m1_subset_1 (k8_filter_2 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (8)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices X0)))\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(\forall X2.((\neg v1_xboole_0 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(r1_filter_2 (u1_struct_0 X0) (k8_filter_2 X0 X1 X2) (k8_filter_2 X0 X2 X1))))$$